Sponsored by

The States of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

New England Governors' Conference

February 1995

Final Report

New England Transportation Initiative

Consultant Team

Cambridge Systematics, Inc.
Vanasse Hangen Brustlin, Inc.
Parsons Brinckerhoff Quade & Douglas, Inc.
Howard/Stein-Hudson Associates, Inc.
Wallace, Floyd, Associates, Inc.
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Executive Summary

Executive Summary

The New England Transportation Initiative (NETI) is a cooperative venture of the six New England states to develop a coordinated strategic transportation planning vision. NETI is directed by a Policy Committee consisting of representatives from state Departments of Transportation, Environmental Protection, and Economic Development (see Appendix A for Committee members). The Plan of Cooperation represents the outcome of the NETI effort. The NETI Project represents an unprecedented attempt to develop a coordinated strategic approach to transportation planning in the New England region. The resulting Plan of Cooperation is intended to serve as a Business Plan for New England's transportation future. It identifies thematic and project-specific areas of agreement and action, and an implementation strategy.

The Project has focused on using transportation policy to enhance: 1) mobility and access for persons and goods; 2) environmental quality; and 3) economic vitality. At a regional level, we believe that most potential conflicts among these goals can be resolved. For most Americans, these goals define quality of life. The new era of global economic competitiveness makes it imperative that New England use transportation policy to promote economic vitality. The economic forecasts developed for the NETI study, based on national data, project the New England region growing at roughly two-thirds the rate of the nation as a whole. We have an opportunity to take actions that will help to ensure that New Englanders will share more fully in the future prosperity of America. Transportation policy can minimize the economic disadvantages associated with New England's location in a far corner of the nation, and maximize the advantages of our location astride new global trade routes.

Three Alternative Scenarios for New England's transportation future were defined and analyzed. Scenario 1 was based on continued implementation of policies reflecting the Intermodal Surface Transportation Efficiency Act (ISTEA) and the 1990 Clean Air Act Amendments. Scenario 2 proposed a combination of multimodal capacity expansion projects, demand reduction strategies, application of new technologies, and regional planning efforts. Scenario 3 was based on a major shift in passenger transportation priorities from the highway and air modes toward the development of a New England-wide High Speed Ground Transportation (HSGT) system. On the freight side, it proposed the development of a New England Regional Intermodal Freight Alliance among the states to coordinate aspects of freight transportation planning and development in the region.

The Policy Committee endorses the Scenario 2 approach to passenger transportation, and the Scenario 3 approach to freight transportation. The Scenario 2 actions emphasizing multimodal capacity improvement projects and travel demand management strategies will enhance environmental goals such as improved air quality and reduced energy consumption. It also endorses a Scenario 1 policy developed under the Clean Air Act Amendments

for the adoption of a Low Emitting Vehicle (LEV) program for the region. The Plan of Cooperation reflects these policy choices.

The following are the major recommendations of the NETI project. Specific actions to implement these recommendations, and supporting analyses, are described in the main body of the text.

1. **Create the New England Regional Intermodal Freight Alliance to assist the states in the development and implementation of a strategic, intermodal, and regional approach to the movement of goods in New England.**

   The dictionary defines an "Alliance" as "a union, relationship, or connection by common interest." The New England states have a common interest in ensuring that freight can move efficiently and cost effectively within the region and between the region and the outside world. This is essential for maintaining the region's economic competitiveness and will affect business locational decisions and environmental quality. While trucks are and will remain the predominant mode of freight transportation in the region, they are contributors to highway deterioration and congestion. As called for in the ISTEA legislation, an intermodal approach is required which ensures that products move by the most optimal combination of modes including trucks, rail, ship, and air. The Alliance will serve as a regional planning and development forum for the six states, facility operators, and private carriers. It will take on specific functions as desired by the states such as the development of new financing mechanisms, negotiation with other states and trans-regional interests, the promotion of facility improvements such as double-stack rail access to ports and port dredging, and the facilitation of intermodal freight movements.

2. **Address increasing levels of congestion in passenger transportation by undertaking regionally coordinated multimodal capacity expansion and demand management projects in congested priority regional travel corridors defined by interstate highways I-95 (five of the six states), I-93 (Massachusetts and New Hampshire) and I-91 and I-84 in Connecticut.**

   New England faces a future in which pockets of urban highway congestion will grow more severe and extend further beyond the core of urban areas in certain corridors. I-95, which traverses five New England states, could potentially be congested during peak hours from the New York border to Brunswick, Maine; I-93 (and related routes) could be congested from Manchester, New Hampshire to Cape Cod; most sections of I-91 and I-84, from the vicinity of Hartford west to Danbury and south to New Haven, are anticipated to experience congestion during peak hours. Congestion on these and parallel routes affects travel throughout the region. Logan Airport, which accounts for 60 percent of all enplanements in New England, will face increasing congestion. All of these trends will negatively impact the ability of New Englanders to travel to work, shopping, and recreation; increase the cost of transporting goods by truck; and discourage outside business and recreational travelers from coming to the region.

   Several strategies are recommended. Highway (general purpose or HOV) and rail capacity expansion and/or operational improvements should be implemented where

appropriate to serve demand. However, this investment should be targeted to those cities, subregions, employment and activity centers which aggressively promote Travel Demand Management (TDM) and growth management strategies to minimize the generation of new travel demand resulting from the expansion or improvement in any modal service. This is necessary to achieve maximum regional benefits from and to protect transportation investments. A regional coordinated airport planning effort should be undertaken to distribute air services more efficiently across the region and to ensure effective access to the national air system for all of New England.

3. **Undertake a regional tourism transportation initiative to facilitate the movement of tourists into and throughout the region.**

   The tourism industry represents one of the most vibrant sectors of the New England economy. It promotes economic vitality precisely through the preservation of environmental quality. Its stability and growth must not be taken for granted. It is uniquely transportation dependent requiring effective access from the rest of the nation and foreign markets, internal movements around New England, and local mobility at the final destination. The New England states should undertake a regional tourism transportation initiative including such elements as a more aggressive joint marketing campaign; enhanced intermodal connectivity; a regional intermodal information initiative; development of strategies for improving external access to the region's tourist centers; promotion of tourist trains and charter bus operations; and development of creative local access strategies.

4. **Undertake four initiatives on a regional basis in the application of new technologies to the solution of transportation problems: Intelligent Transportation Systems (ITS); Telecommunications; Low Emitting Vehicles (LEVs); and Alternatively Fueled Vehicles.**

   New technologies offer another way of addressing congestion and air quality problems other than by building new physical capacity or reducing demand. New England, as a national center of high technology, ought to vigorously embrace the application of these technologies to transportation problems. ITS systems such as Advanced Traveler Information Systems (ATIS) and Automated Vehicle Identification (AVI) systems at toll plazas offer strategies for improving the operational efficiency of highway travel. Telecommunications offers a way of reducing the demand for business-related travel. Low emitting and alternatively fueled vehicles offer the potential to significantly mitigate two of the most serious externalities associated in part with transportation – air pollution and energy consumption – regardless of how issues of mobility and congestion are addressed. The New England states should support the implementation of an LEV program which achieves the ozone reduction goals of the Ozone Transport Commission's (OTC) petition to the U.S. EPA, even assuming continued growth in vehicle miles traveled. The states should work jointly through the Department of Energy's Clean Cities and Clean Corridors programs to develop a regional strategy for the creation of an alternative fuel infrastructure.

5. **Continue efforts to preserve the existing transportation infrastructure in good working order. The most critical link in this system, despite the new initiatives described above, is the roadway system which will continue to accommodate the majority of passenger and freight trips and which will experience increased volume under any of the proposed scenarios.**

   The New England states should use their collective political strength to ensure national support for the preservation of this system; act jointly in the debate on ISTEA re-authorization; and maintain stable state and local revenue strategies, including adjustments in fuel taxes, user fees, market pricing programs, and public/private partnerships, which are adequate to meet the needs of system preservation.

1.0 Introduction and Methodology

1.0 Introduction and Methodology

The New England Transportation Initiative (NETI) is a cooperative venture of the six New England states to develop a Plan of Cooperation which can serve as a Business Plan for strategic transporting planning in the region. The Plan is not intended to create a detailed transportation network or program – that will continue to grow out of the traditional state and local planning processes. It is, however, intended to achieve agreement on policies and priorities at the strategic level on issues of regional significance. The agreement on a Plan of Cooperation represents an unprecedented achievement in regional cooperation in the transportation field among six states which have disparate political cultures and priorities and which have tended to act unilaterally in the past.

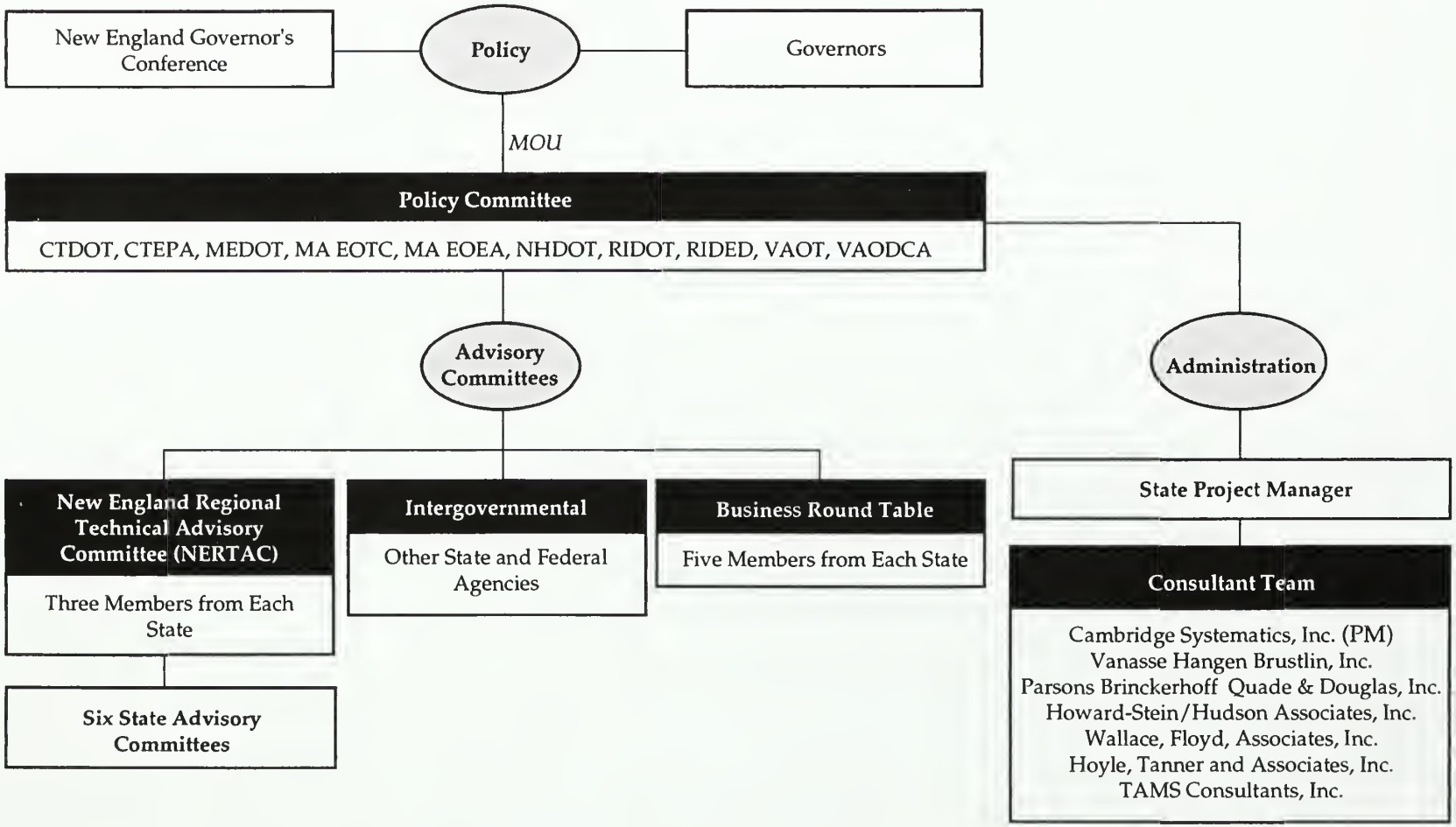
The study has focused on using transportation policy to enhance: 1) mobility and access for persons and goods; 2) economic vitality; and 3) environmental quality. At a regional level, it should be possible to resolve and manage conflict among these goals. For most Americans, they define quality of life. The new era of global economic competitiveness makes it imperative that the New England states use transportation policy to promote economic vitality, or risk falling behind national economic growth rates.

Figure 1.1 shows the Project's organizational structure. The Project was conducted under contract to the Massachusetts Highway Department (MHD) with a combination of Federal Highway Administration (FHWA) Intermodal Surface Transportation Efficiency (ISTEA) demonstration funding and state matching funds. All states contributed significant in-kind staff support. Substantive project direction was provided by a Policy Committee which consisted of ten representatives from state Departments of Transportation, Environmental Protection, and Economic Affairs. A complete list of NETI committee members is included in Appendix A. The project work was carried out by a seven firm consultant team headed by Cambridge Systematics, Inc. A complete list of authors is included in Appendix B.

The NETI Project conducted an extensive public participation process under the direction of Howard/Stein-Hudson Associates. Regional public meetings were held in northern and southern New England at the beginning of the project to help define the scope and near the end to review the draft Plan of Cooperation. However, the primary focus of the public participation effort was on three standing committees which met as needed to review interim products.

These committees were the New England Regional Technical Advisory Committee (NERTAC), Business Roundtable, and Intergovernmental Committee. The NERTAC, which met five times, consisted of three citizen representatives from each state. The representatives were chosen from individual state Advisory Committees invited to participate in the NETI process by each state's Policy Committee members. These

Figure 1.1 New England Transportation Initiative (NETI) – Organization Chart



committees were in some cases constituted specifically to participate in NETI and in other cases constituted standing Advisory Committees to state DOTs. In general, they included a broad-based membership drawn from citizens interested in transportation issues. The consultants met with each state Advisory Committee an average of three times, and the Committees met with their Policy Committee representatives on other occasions.

The Business Roundtable consisted of five representatives from business and labor nominated by each state's Policy Committee members. In general, these were people who had not historically been active in transportation planning activities. The Roundtable met four times. The Intergovernmental Committee consisted of representative of state and federal agencies involved in transportation issues and met three times.

The consultant team participated in a total of 32 general public or committee meetings, plus 15 Policy Committee meetings. In addition, four newsletters and two press releases were issued. The public participation process is highlighted in Figure 1.2 and a complete list of all meetings and publications is included in Appendix C. Some samples of press coverage is included in Appendix D.

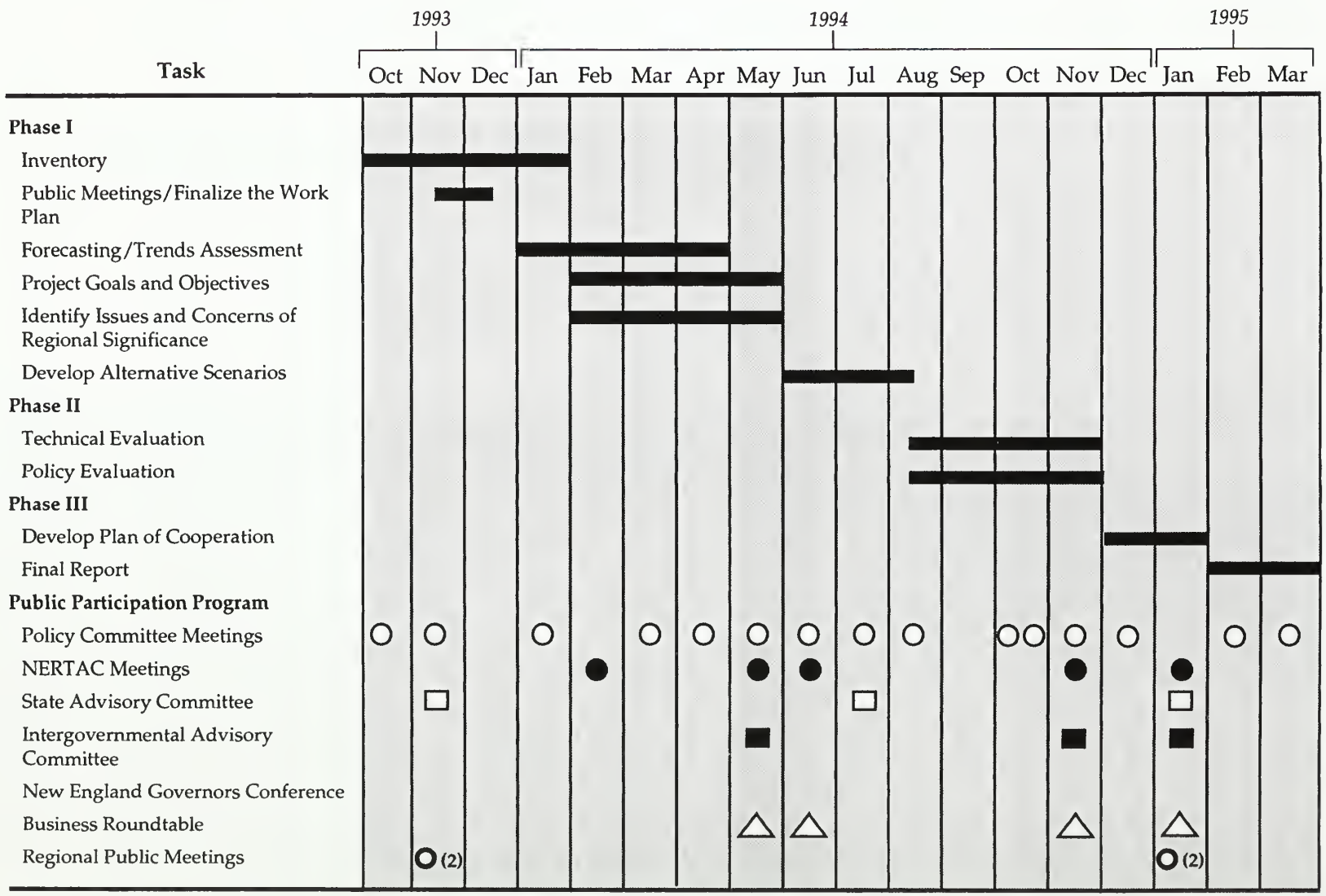
As shown in Figure 1.2, five major products were produced:

- Inventory;
- Forecast, Goals and Objectives, and Issues of Regional Significance;
- Alternative Scenarios;
- Alternative Scenario Analysis; and
- Plan of Cooperation.

In each case, a draft report was initially produced for review by the Policy Committee, after which it was revised and distributed for review to the Advisory Committees. Committee meetings with the consultant were held at each milestone point. The public comments were then discussed by the Policy Committee and a Final Executive Summary was published which included all written comments received and a summary of their disposition. The main body of the text of each report remained in draft form. The key points from each report are summarized in this Final Report. However, each report can be accessed at area libraries and Departments of Transportation. A complete list of locations is included in Appendix E. The Inventory Report in particular is recommended to the reader interested in a single data source on existing transportation conditions in all major modes in the six New England states. It should be noted that this remains a draft report with minor inaccuracies.

The approach taken by the study was to first inventory existing conditions in the region. This lead to the identification, through the public participation process, of issues of regional significance and of the project's goals and objectives. From this effort, three Alternative Scenarios outlining visions of New England's transportation future were defined. These Scenarios represented a continuation of current policies, moderate change, and major

Figure 1.2 Products and Meetings



change. The analysis of the Scenarios created the data used by the Policy Committee in the development of the Plan of Cooperation.

The NETI Project attempted to cover a wide range of transportation, economic and environmental topics across a six state region. Given the limited budget of the consultant study ($650,000), it was necessary to winnow down the list of possible topics through the Policy Committee and public review process. Thus, the study came to focus on the major transportation modes in the region – highway, railroad, air, and ports, and three key environmental issues – air quality, energy consumption, and land use patterns. While other issues brought to the attention of the study are important (at least locally if not regionally), the resources simply did not exist to fully address all issues. Some of these issues are listed in Chapter 2.0.

Again due to limited resources, almost all of the analyses in NETI were based on existing data which in some cases were modified to be consistent with other NETI assumptions. No original modeling or data collection was attempted. Data were gathered from published documents or interviews with experts in the field including public officials, private transportation providers, citizen advocacy groups and the like. Of particular importance to the overall conclusions of the study are the economic forecasts which project New England growing more slowly than the nation as a whole during the next twenty-five years. These were based on analyses developed by a wide variety of sources including The Bank of Boston, New England Regional Commission, Boston Federal Reserve Bank, New England Economic Project, the U.S. Department of Commerce's Bureau of Economic Analysis (BEA), and the Massachusetts Institute for Social and Economic Research (MISER).

The data presented in this report are primarily regional averages. For state specific data, see the draft technical reports.

Chapter 2.0 describes the NETI Plan of Cooperation – the basic product of the effort. This chapter also describes the project's goals and objectives, and outlines the Alternative Scenarios. Chapter 3.0 outlines Issues of Regional Significance which were identified during the course of the study. Chapter 4.0 summarizes existing conditions in the New England region as identified in the Inventory Report. Chapter 5.0 describes in more detail the three Alternative Scenarios used as the basis for evaluating policy choices facing the region. Chapter 6.0 summarizes the results of the analysis of these Scenarios.

In addition to the appendices listed above, Appendix F provides a List of Acronyms frequently used in the study; Appendix G is a response to comments received on the Plan of Cooperation; Appendix H includes all written comments received coded to correspond to the responses; and Appendix I provides a List of Sources.

2.0 Plan of Cooperation

2.0 Plan of Cooperation

2.1 Goals and Objectives

Early in the NETI process, the following nine objectives were established:

- Minimize intraregional competition;
- Use transportation investment to promote economic vitality;
- Protect the environment while minimizing regulatory barriers to investment;
- Use technological advances to the maximum extent possible;
- Use changes in social and work patterns to minimize travel demand growth;
- Coordinate land use and transportation planning;
- Promote intermodalism;
- Promote innovative and fiscally sound financing policies; and
- Promote intra- and inter-regional connectivity.

The Plan of Cooperation is consistent with these objectives. As the study proceeded, three overriding goals emerged which incorporate most of these concepts:

- Enhance mobility and access for persons and goods;
- Enhance environmental quality; and
- Enhance the economic vitality of the region.

The Plan of Cooperation endeavors to achieve these three goals. The recommendations reflect an overall conclusion that a continuation of current transportation policies and practices are not sufficient for the New England states to improve, or even retain, their competitiveness in the national and international economies. In particular, the New England states must take aggressive actions involving cooperation of the private and public sectors to improve the cost-efficient movement of freight on an intermodal basis.

2.2 Mission

The NETI Project represents the most significant attempt to-date to develop a coordinated strategic approach to transportation planning in the New England region. It is an attempt to use transportation policy on a regional basis to help preserve New England's quality of life and competitiveness in the national and global economies. It has provided a forum for the public sector managers of New England's transportation, economic and environmental agencies, and interested private parties, to exchange views on their vision for New England's transportation future. It has provided quantitative and institutional analyses of these visions. The resulting Plan of Cooperation is intended to serve as a Business Plan for New England's transportation future. It identifies thematic and project-specific areas of agreement, and an implementation strategy.

2.3 Vision of New England's Transportation Future

The NETI Project has focused on using transportation policy to enhance 1) mobility and access for persons and goods; 2) economic vitality; and 3) environmental quality. At a regional level, it should be possible to manage and resolve conflicts among these goals. For most Americans, they define quality of life – the ability to move about freely; to enjoy a healthy and attractive environment; and to attain economic security. Lack of mobility and access leads to economic stagnation and environmental degradation. New England's environmental quality – its natural resources, historic sites, and vibrant town centers – is what attracts it to others who bring tourist dollars and new businesses to the region. Thus, its environmental quality is essential to its economic vitality. Similarly, the funding and political will to invest in environmental protection is highest during times of economic growth.

The nation and the world have entered a new era of economic competitiveness. One can look around the country at cities, states and regions which have pursued unique competitive niches and advantages – Columbus, Ohio's development as a major intermodal freight center positioned between New York, Chicago and Atlanta; South Dakota as a center for the back office and telecommunications functions of large financial institutions; Pennsylvania and New York's investment in port and double-stack rail facilities; Miami as the financial and tourist gateway to Latin America; West Coast ports as jumping off points to the Pacific Rim countries; and the entire Sunbelt using its climate to its advantage in competing with the rest of the nation.

New England has numerous advantages in this competition including strong institutional sectors (universities, hospitals, museums); a vibrant tourist industry; a desirable environment; strong financial and business services (insurance, financial services, high technology); a skilled and highly educated work force; and a strong foundation in knowledge-based industries. Transportation policy can play a major role in maximizing these advantages.

New England also faces many challenges. Some, such as the harsh winter climate, cannot be changed nor directly affected by transportation policy. Others, such as our geographic location, while immutable in and of themselves can be turned into advantages or disadvantages partly through transportation policy. For example, our location in a far corner of the nation requires that we maintain efficient and cost-effective transportation connections to the rest of the country. This location also puts New England astride major new trade routes such as the land bridge between Asia and Europe which has developed as a result of new container ships which are too large to traverse the Panama Canal. So far, we have not made the transportation investments necessary to take full advantage of these opportunities.

Thus, the NETI Plan of Cooperation's vision of New England's transportation future is one in which the six states pursue, in a fiscally prudent manner, a variety of multimodal strategies that enhance mobility and access for people and goods; economic vitality; and environmental quality.

2.4 Recommended Actions

This section describes the specific actions recommended under each of the thematic areas outlined in the Executive Summary.

2.4.1 Freight Transportation

There are tremendous opportunities for enhancing freight transportation throughout the region by developing and implementing a coordinated, strategic, interstate and intermodal infrastructure investment strategy.

Investment is required in highways, railroads, ports, and airports, and in the intermodal connections among the modes. If successful, New England could enhance the efficiency of freight movements to and from its own markets and businesses, serve as a key link in the land bridge between Asia and Europe, and as a major shipping center between the Midwest and Europe. It could become a major force in "Atlantic Rim" trade. If it fails, it faces a future of increasing transportation costs impacting business locational decisions; increasing dependence on truck transportation for goods movement with implications for highway congestion and maintenance, and air quality; and declining ports and the jobs associated with them.

The key to achieving this vision is the creation of the New England Regional Intermodal Freight Alliance to serve as a regional planning and development forum for the New England states. The purpose of this Alliance would be to assist the states in the development of a strategic, intermodal, regional approach to the movement of goods in New England.

In the movement of goods, New England faces intense competition from mid-Atlantic states, as well as powerful national and international interests including organized labor, shipping associations, and railroads. A new regional approach, going beyond a planning study and possibly leading to the development of new, cooperative institutional arrangements, is needed to maximize long-term regional benefits and equitably distribute the costs and benefits of goods movement across the region.

The proposed Alliance would initially provide a forum in which the state agencies already represented in the NETI process, other governmental agencies, and the public and private operators of freight facilities and transportation services, could address issues of mutual concern.[1] It would provide an opportunity for the informal exchange of views and data prior to decision making. The individual states would maintain full sovereignty except where they chose to specifically delegate authority to new institutional structures. The Alliance could function as an enabler for the states – assisting in resolving problems and taking on such functions as determined by the states. It would provide a central forum in which the private sector could engage government in problem solving and in which government could help to catalyze private sector action.

Some of the issues to be addressed by the Alliance may include the following:

- Develop and implement an intermodal regional freight investment strategy;
- Secure double-stack rail access (or other appropriate technologies) to the ports of Boston, Davisville, and the Central Vermont Railroad; and investigate the potential for further development of New England's rail freight potential;
- Achieve the necessary investment in port infrastructure and dredging at designated key facilities to ensure that New England's ports remain competitive;
- Develop a strategy to create New England air freight niche airports in conjunction with the development of a regional air passenger strategy by others;
- Negotiate agreements on behalf of the region with labor, shipping associations, and railroads;
- Secure and distribute federal funds and raise funds through mechanisms such as pooled bond sales or other creative financing mechanisms;
- Distribute costs and revenues of freight transportation equitably across New England;
- Negotiate with New York state and Canadian provinces regarding the development of suitable freight transportation gateways;

1/ While described originally in the Alternative Scenarios as a "Corporation," the NETI process should not prejudge the final form of this effort without more direct input from those interests which will be most affected. It is also not the intention of NETI to create new government bureaucracy.

- Develop rail/truck/port intermodal terminals and minimize barriers to the successful operation of existing facilities;
- Acquire, retain and enhance abandoned rail lines suitable for freight transportation such as the Concord to White River Junction line recently acquired by the state of New Hampshire;
- Standardize truck regulatory policy across the region, building on the current New England commercial vehicle initiatives;
- Facilitate the development of railroad interlining agreements and joint operation of multiple rail services on the same facilities;
- Enhance the efficiency of Canadian border crossings;
- Operate such facilities as may be requested by individual states;
- Monitor the impact of proposed laws and regulations on freight transportation; and
- Develop a regional freight database to support its planning efforts.

Clearly, barriers exist to the successful implementation of the Alliance including the traditional independence of states and modes, and the dispersed operational and regulatory authority for freight transportation among state transportation agencies, quasi-public port authorities, and public and private operators. A strategy for overcoming these barriers is the identification and successful implementation of a small number of achievable short-term actions as confidence and consensus building measures.

2.4.2 Passenger Transportation

New England faces a future in which pockets of urban highway congestion will grow more severe and extend further beyond the core of urban areas in several important corridors especially I-95 and secondarily I-93 and I-91/I-84. Logan Airport, which handles 60 percent of all New England enplanements, will become increasingly congested. Vehicles Miles Traveled (VMT) will continue to increase at a rate dependent on population and economic growth, changing demographics, and the success of strategies intended to minimize its growth. In areas of congestion, New England should pursue a range of strategies which is predominantly oriented toward minimizing VMT growth in congested areas by reducing peak-period demand and providing transportation alternatives, but also includes multimodal capacity expansion to accommodate this growth. This strategy needs to be regional in nature, and maximize the use of new technologies intended to improve the efficiency of highway operation.

Strategies include highway and rail improvements and expansions; HOV/bus facilities; growth management planning; Travel Demand Management (TDM) strategies; regional

airport planning; and market-based pricing. These strategies should be targeted and prioritized toward the most congested regional travel corridors, and selected based on the travel demand characteristics of the corridor and their potential for cost-effective implementation. Specific technological components of this strategy such as Intelligent Transportation Systems (ITS) and Telecommunications are discussed separately in Section 2.4.4.

This strategy recognizes that the region (and the nation as a whole) has entered the post-interstate construction era in which intermodal solutions and system preservation are now the priorities. It approaches the transition to a new era in an evolutionary and incremental manner stressing a variety of new modes and technologies, with appropriate emphasis on physical capacity expansion, demand reduction, and more efficient operations. It seeks to use existing rights-of-way or avoid the need for new infrastructure entirely when possible. As such, it seeks to implement proven approaches while gradually introducing new technologies and institutional arrangements.

The New England states should establish priority regional travel corridors, agree to coordinate with each other on the development and implementation of strategies for addressing congestion in these corridors, and give preference to the advancement of projects within these corridors. Priority corridors are defined by the major interstate highway which traverses the corridor. However, the definition is intended to include all NHS roadways in the corridor and all other major modes of transportation which parallel this route.

The top regional priority travel corridor for New England is I-95. It is New England's main street, traverses five of the six states, has the highest level of congestion today, and under all scenarios is forecast to experience congestion on most segments between the New York border and Brunswick, Maine in the year 2020. It is one of four national priority corridors and is already the subject of a larger regional ITS initiative (the I-95 Corridor Coalition) which includes the mid-Atlantic states, as well as New England. While I-95 does not traverse Vermont, it too is impacted by congestion on the New York to New Haven segment which is used by trucks and tourists traveling to Vermont from outside New England via I-91.

The second priority corridor is I-93 which is projected to experience congestion from Manchester, New Hampshire to Cape Cod (U.S. Routes 3 and 6 are included in the I-93 corridor south of Boston). While I-93 traverses only Massachusetts and New Hampshire, it is a major lifeline between Vermont and the Boston area.

The third priority corridors are I-91 and I-84 which, although most congestion is confined to a single state – Connecticut – are major lifelines to western New England including Massachusetts and Vermont, and to New Hampshire and Maine via I-90 and I-495.

In addition to highway congestion, the other major issue in New England passenger transportation centers around congestion at Logan Airport, and its ability to serve as New England's gateway to the outside world.

The following are the types of projects which should be undertaken in these corridors, with specific examples cited.

Highway Capacity Expansion

These projects are all in advanced planning stages in their respective states. No new projects are proposed.

Massachusetts is considering expanding the section of I-95/MA 128 (and a small section of I-93/MA 128) between Wellesley and Randolph. The expansion would be from six to eight lanes with the additional capacity being for either general purpose or HOV traffic. This would complete an eight-lane circumferential highway around Boston. This is an excellent example of a project which, while located entirely in one state, is of critical importance to the connectivity of the entire New England region from points to the west and south.

Massachusetts and New Hampshire are considering widening Route 3 and the F.E. Everett Turnpike respectively from four to six lanes. These roadways constitute a major parallel travel corridor to I-93 itself. The New Hampshire project is further advanced in planning and commitment. In addition, New Hampshire is proposing to widen I-93 south of Manchester from four to six lanes (it is already six lanes on the Massachusetts side) and I-293 connecting I-93 to the Everett Turnpike.

There are no capacity improvement projects currently planned for I-91 in Connecticut. Projects programmed for I-84 include widening from four to six lanes between I-691 and Waterbury; and extension of the HOV facility from East Hartford to Founders Bridge in Hartford. The State of Connecticut will be initiating an I-84 West Corridor Analysis. It will be a Major Investment Study/Environmental Impact document exploring needs and alternatives for improving mobility in the I-84 corridor.

Vermont anticipates selective strategic investments to enhance mobility throughout its National Highway System corridors. In the late 1980s, the Maine Turnpike initiated a project to widen the Maine Turnpike from four to six lanes between York and Portland, but capacity expansion was placed on hold by Maine's Sensible Transportation Policy Act of 1991. As traffic continues to grow on this major artery into Maine, congestion and safety concerns are also increasing. Some form of substantial mobility improvement, whether capacity expansion, operational improvements, and/or demand management, should be anticipated in this key corridor in order to preserve and improve Maine's economic vitality.

Under current policies, each state would individually pursue these projects, competing for federal funding with each other and with other projects within their states. The operational strategies for the projects – general purpose lanes versus HOV, toll strategies if any, ITS applications, etc. – would be decided by the individual states. The Plan of Cooperation declares these projects to be of regional significance. The New England states should jointly support federal funding for all of these projects and develop common operating strategies.

Rail

The New England states already support the Northeast Corridor Transportation Plan (NCTP) for three-hour rail service between Boston and New York City. That support is

reiterated in this Plan of Cooperation. The Plan of Cooperation supports the concept of interconnecting passenger rail service from the south and west with service to northern New England and commits the states to attempt to develop a common approach to achieving this goal.

Commuter rail is an effective strategy for reducing automobile trips on congested radial routes into densely developed urban cores. Thus, continuing the improvement and expansion of commuter rail service into Boston and New York City is of regional significance as part of the strategies to minimize highway congestion in the I-95 and I-93 corridors. The New England states should as a region support these projects, and give particular attention to the potential for greater interstate cooperation in the expansion and improvement of commuter rail services between downtown Boston and points in Rhode Island and New Hampshire. An example would be the coordination of Massachusetts' program for possible commuter rail service to Fall River with Rhode Island's desire to provide connecting service to Aquidneck Island (Portsmouth, Middletown, Newport). Presently, only limited peak-period service is provided between Boston and Providence. These projects are regionally significant not because of their impacts on specific urban areas – either Boston or New York City – but because of their potential for removing local commuter trips from regional travel corridors hence improving the movement of people and goods across the region.

The New England states, as a region, recognize that passenger rail service has a role to play in addressing congestion and access problems in corridors which now or in the future have or will have the demand characteristics necessary to permit the cost-effective application of rail services. These services should be studied and implemented where appropriate as part of a regional multimodal capacity expansion and demand management strategy. To that end, critical rail assets should be maintained today through cooperative regional actions.

Bus and HOV

The New England states recognize that not all corridors have the travel characteristics and/or physical rights-of-way to make rail a cost-effective solution. The Plan of Cooperation commits the New England states to the maintenance of a healthy intercity and commuter bus industry, and to actively consider bus service options in corridor planning. As discussed above, particular attention should be paid to opportunities for incorporating HOV facilities into highway capacity expansion projects.

Regional Airport Planning

New England has one congested airport – Logan International in Boston. Forecasts for 2020 are for congestion to worsen at Logan and spread to only one other airport – Bradley International in Hartford – and even that is uncertain. Congestion at Logan is experienced on both the air side – affecting the timely arrival and departure of flights during peak periods – and on ground side access. As a whole, New England's existing second tier commercial airports service only 60 percent of the potential demand in their service catchment areas. Additional abandoned military airfields are likely to become available in the coming years further adding to the available airport capacity in the region for civilian purposes.

Logan Airport is New England's air transportation gateway to the outside world and the tenth highest volume airport in the nation. Much of the air traffic congestion at Logan is related to the high volume of trips to short and intermediate destinations such as New York and Washington (the I-95 corridor), and the large number of short-haul commuter trips from other points in New England – particularly northern New England airports such as Burlington.

New England possesses ample airport physical capacity but has a need to develop a regional planning approach to best use that capacity. The goal of this planning effort should be to: 1) focus Logan, and secondarily Bradley, on the provision of long-haul national and international services; 2) develop a critical mass of short- and intermediate-haul services at the second tier airports at competitive fares through negotiations with air carriers; and 3) ensure that sufficient capacity remains at Logan for short-haul and commuter services from other New England points connecting to long-haul services. The latter point is particularly critical for those areas of northern New England which are beyond convenient driving distance to Logan and therefore require effective air access.

The Plan of Cooperation supports regional airport planning efforts such as that initiated by the New England Council, and recommends their expansion to include the wider constituencies represented by the NETI process; consideration of air freight services; and development of a new regional air travel demand model which is less "Logan-centric" than previous efforts and which can provide an analytical basis for the implementation of a regional strategy and for negotiations with air carriers. It supports the continued expansion of Logan's capacity as proposed in the Logan 2000 program.

Travel Demand Management (TDM) and Growth Management Planning

The New England states should give consideration, as a region, to targeting transportation infrastructure investment to activity centers (such as office and industrial parks, shopping centers, urban cores and major recreational destinations), municipalities, and subregions (such as metropolitan areas, counties, and rural planning districts) which actively promote TDM and growth management policies. TDM strategies include telecommunications, ridesharing programs, flexible work hours and other strategies intended to make more efficient utilization of existing transportation capacity. Growth management planning is intended to discourage sprawl development which inevitably leads to longer and more single-occupant vehicle (SOV) trips. The pursuit of these policies can help to maximize the benefit of and protect the investment in transportation infrastructure.

While this might seem like a strictly local or state issue, the cumulative result of many individual local planning decisions is to increase congestion on the major regional travel corridors. Right now, most of the incentives for municipalities in our property tax-based systems of finance favor sprawl development. By targeting infrastructure investment, a counter-incentive can be created. Similarly, the New England states compete with each other for businesses on the basis of what government can offer business with very few expectations in return other than the immediate tax revenue and job creation benefits. New England must still compete for businesses with the rest of the nation and world, but internally the states should cooperate in developing realistic expectations and incentives for businesses to make transportation-responsible decisions. This is very important for protecting air, land and water resources and maintaining the New England quality of life.

Market Pricing Demonstrations

Automobile travel, almost alone among goods and services in the United States, is shielded from market prices. Fuel taxes are low relative to other developed countries. Many of the costs associated with auto travel, such as insurance, are fixed and vary only slightly if at all in relation to usage. Such costs are also paid "off-line" and are not considered by most people as part of the daily cost of auto travel.

One of the most effective ways of expanding highway capacity without building new infrastructure is to spread the peak period so that the highest volumes are distributed over longer periods of time. This, rather than mode shifting, has been the overwhelming public response to the increasing congestion levels brought about by the VMT growth of the last decade during which there has been relatively little capacity expansion. Drivers who shift their travel times receive no direct monetary benefit for their trouble.

The development of ITS technologies such as Automated Vehicle Identification (AVI) offers an opportunity to establish differential user fees for highway travel, and to do so barrier (i.e., toll plaza) free by means of transponders and receivers implanted in roadways and vehicles. Electronic toll collection has been successfully implemented on several toll facilities located throughout the country. Market-based pricing demonstration projects are encouraged by the ISTEA legislation, with the San Francisco-Oakland Bay Bridge project in California being the most advanced in terms of implementation. The Plan of Cooperation urges the New England states to develop one or more interstate demonstration projects oriented toward the urban commuter and seasonal recreational travel markets. In order to maximize public support for this effort, the total revenue collected from these demonstration projects should either be equal to the revenue collected today (revenue neutral), or any additional revenue should be dedicated to transportation improvements in the corridor.

ISTEA Requirements and Reauthorization

ISTEA requires that each state develop six management systems, and statewide transportation plans and investment programs. Some of the management systems, particularly the most developed ones such as bridge and pavements, are fairly state specific. However, the least developed systems – congestion and intermodal – could benefit from a regional approach. With respect to statewide transportation planning, most of the states are well advanced in the development of individual statewide travel demand models. The lack of a regional multimodal New England-wide travel demand model made it extremely difficult for the NETI study to quantitatively analyze regional transportation issues. The Plan of Cooperation recommends the development of New England regional congestion and intermodal management systems, and an intermodal regional travel demand forecasting model.

The Plan of Cooperation also urges the New England states to develop a common approach toward ISTEA reauthorization legislation, and to use their political influence in Congress and at the Gubernatorial level to secure enactment of a common New England position.

2.4.3 Tourism Initiative

The tourism industry represents one of the most vibrant sectors of the New England economy. It promotes economic vitality precisely through the preservation of environmental quality. Its stability and growth must not be taken for granted. It is uniquely transportation dependent – requiring effective connections with the rest of the nation and foreign markets, internal movements around New England, and local mobility at the final destination.

The New England states should undertake a regional tourism transportation initiative including the following elements to ensure effective access to our tourism industries:

- A more aggressive regional marketing campaign;
- Improved regional intermodal connections;
- A regional, intermodal travel information program;
- Explicit consideration in priority corridor travel studies of impacts on regional tourist destinations;
- Promotion of tourist trains and a vibrant charter bus industry; and
- Regional cooperation in the development of local access strategies at tourist destinations to reduce seasonal auto traffic in regional corridors and at the destinations themselves: strategies might include expansion of rental car opportunities at major tourist destination terminals of all modes; enhancement of local shuttle bus operations; promotion of bicycle travel and its facilitation in conjunction with all regional travel modes; and market pricing demonstration projects as discussed above.

2.4.4 Technology Applications

New technologies offer another way to reduce congestion problems other than by building new physical capacity or reducing demand. New England, as a national center of high technology, should vigorously embrace the application of these technologies to transportation problems. This includes Intelligent Transportation Systems (ITS); Telecommunications; Low Emitting Vehicles (LEVs); and Alternatively Fueled Vehicles. ITS provides strategies for improving the operational efficiency of highways. Telecommunications is a way to reduce the demand for business-related travel. Low emitting and alternatively fueled vehicle technologies offer the potential to significantly mitigate two of the most serious externalities partially associated with transportation – air pollution and energy consumption – regardless of how issues of mobility and congestion are addressed.

Intelligent Transportation Systems (ITS)

ITS (formerly known as IVHS or Intelligent Vehicle Highway Systems) offers the potential for applying technology solutions to highway operations in order to improve their efficiency and increase capacity without extensive new physical construction. This is the major focus of the I-95 Corridor Coalition effort mentioned earlier. Several ITS projects are currently in the planning and deployment stages in New England including the I-95 corridor in southwestern Connecticut and elsewhere; a Boston metropolitan area plan beginning with the I-93 corridor; efforts to standardize and make more efficient commercial vehicle regulation; and the application of Automated Vehicle Identification (AVI) to toll plazas on I-95 in Maine and New Hampshire, and on the Tobin Bridge (I-95 corridor) and Third Harbor Tunnel (I-90 corridor) in Boston.

The NETI Plan of Cooperation endorses as being of regional significance the application of ITS technology in the priority regional travel corridors, and urges all of the New England states to support these efforts and to implement them on a regional basis.

Telecommunications

Several New England states, including Massachusetts and Vermont, have initiated telecommunications demonstration projects. The Plan of Cooperation urges that all of the New England states join together in a regional telecommunications demonstration project. Telecommunications offers a way to reduce the demand for travel and avoid new infrastructure construction. Telecommuting can reduce auto commuting trips while teleconferencing can reduce the demand for business travel. A regional demonstration project can enhance New England's image as a center of high technology and innovative public policy, while promoting the local telecommunications industry. It also offers an opportunity to systematically study all of the implications of telecommunications on travel and development patterns. For example, to what extent will telecommunications enhance the attractiveness and feasibility of living in rural areas of the region, and with what impacts?

A 1991 study by Arthur D. Little projected that telecommunications could substitute for 10 to 20 percent of all trips nationally resulting in a $23 billion benefit in reduced emissions, fuel savings, travel time and roadway maintenance. In contrast, savings associated with ITS, high speed rail, and alternative fuels are estimated at $10 to 13 billion. The 1993 Strategic Assessment Report by the Massachusetts Aeronautics Commission estimated that by 2010 telecommunications could replace up to seven percent of projected enplanements at Logan Airport. The Telecommuting Research Institute projects that by 2002 between 2.3 and 4.5 percent of work trip VMT could be eliminated be telecommuting.

Low Emitting and Alternatively Fueled Vehicle Technologies

Despite the rapid increases in VMT over the past two decades, the air in New England is significantly cleaner today than it was in 1970. The states of Massachusetts and Connecticut have formally requested that Boston and Hartford respectively be classified as in attainment of carbon monoxide standards. The Environmental Protection Agency (EPA) has reported that in New England, "between 1984 and 1993, ground-level ozone levels

dropped by 12 percent, carbon monoxide levels by 37 percent, nitrogen dioxide levels by 12 percent, sulfur dioxide levels by 26 percent and lead levels by 89 percent." These improvements have been achieved through a combination of state actions and improvements in automobile technology.

The Ozone Transport Commission (OTC), composed of 12 Northeast states and the District of Columbia, petitioned EPA to impose a Low Emitting Vehicle (LEV) program on the region. Presently, only California has a LEV program. As shown in Chapter 6.0, the LEV Program as defined by the OTC petition, in combination with other already approved actions such as enhanced Inspection and Maintenance (I/M) programs and reformulated fuels, would reduce ozone precursor chemical emissions in the region by over 70 percent during the next 25 years even given continued VMT growth. In comparison, differences in the level of VMT growth would have much smaller relative impacts. The Plan of Cooperation endorses implementation of an LEV program which will achieve the ozone reduction goals of the OTC petition even under assumptions of continued increases in VMT.

The National Energy Policy Act has initiated the introduction of alternatively fueled (non-gasoline powered) vehicles into vehicle fleets. This is considered an initial step in the introduction of alternative fueled vehicles among the general public. To facilitate the success of this program, there is a need for a regional fueling and servicing infrastructure. The Plan of Cooperation urges the New England states to work through the Department of Energy's Clean Cities and Clean Corridors programs to develop a regional strategy for the creation of such an alternative fuel infrastructure. The focus of the Clean Corridor Energy Program is the North/South Atlantic Corridor, consistent with the recommended focus on the I-95 corridor for NETI implementation efforts.

2.4.5 System Preservation

The New England states must continue efforts to preserve the region's existing transportation infrastructure in which billions of dollars have been invested. The most critical link in this system, despite the new initiatives described above, is the highway system which will continue to accommodate the majority of passenger and freight trips and which will experience increased volume under any of the proposed scenarios.

The New England states should use their collective political strength to ensure national support for the maintenance and preservation of this system through full funding of ISTEA, airport and port programs; and maintain state and local revenue strategies, including adjustments in fuel taxes, user fees, market pricing programs, and public/private partnerships, which are adequate to meet the needs of system preservation. Further study is recommended to determine the most effective and politically viable means of financing infrastructure requirements.

2.5 Implementation Strategy

The NETI agenda proposed in the Plan of Cooperation is ambitious. Yet, because it is strategic and future oriented, none of it is on any state's critical path. There is no deadline requiring the creation of the New England Regional Intermodal Freight Alliance, the implementation of congestion pricing demonstration projects, or the development of a regional air passenger strategy. The participants in the NETI process are committed to ensuring that real actions result from this effort. Therefore, the following steps are recommended.

- Participation (buying-in) at the highest political levels is required – i.e., Secretaries or Commissioners of Transportation, Environmental Policy, and Economic Affairs; and Governors. This buy-in must be institutionalized for the long term by means of a formal, written Memorandum of Understanding (MOU). This joint participation occurred in the establishment of the NETI Project, but does not automatically continue due to the coincident timing of the NETI recommendations and the 1994 elections. Scheduled meetings with the New England Governor's Conference have not occurred. In 1995, three New England states will have new Governors. It is essential that high-level buy-in occur quickly. In some cases, due to turnover in policy and senior management, it will be the responsibility of career civil service employees to bring the NETI agenda to the attention of the new leaders.

- A high-level champion is required in each state. This person must have policy-level responsibilities and frequent, direct contact with an agency head.

- Once buy-in has been achieved, regularly scheduled meetings should be held among agency heads or their designees which include monitoring progress on the NETI agenda.

- Ongoing staff-level support is essential. These staff must view the advancement of the NETI agenda as part of their job description. These individuals could be state employees, consultants, or some combination.

- A short- and medium-range implementation plan of achievable actions should be agreed to by the Policy Committee with formal milestone dates established.

- Participation in the NETI process should be broadened to include, on an advisory basis, more representation of public and private sector managers involved in freight, air and port operations and planning.

- The NETI citizen advisory committees should play integral roles in monitoring NETI progress and advocating the NETI agenda. In particular, the Business Roundtable needs to be more fully engaged than was the case during the study phase.

The following are recommended immediate next steps:

- Brief existing and in-coming Governors, Secretaries and Commissioners;
- Identify high-level champion in each state for the next phase;
- Define short-term priority actions;
- Apply for follow-on grant or otherwise determine strategy for financing implementation activities;
- Establish the logistical roles to be played by the states;
- Establish regular meeting schedule and method for maintaining citizen and business community involvement; and
- Broaden public sector participation to include freight, airport, and port representatives on an advisory basis.

2.6 Topics Not Addressed by the Plan of Cooperation

Throughout the course of the NETI Project, a wide range of issues were raised by members of the Policy Committee or through the public participation process. Due to the limited resources of the study, it has not been possible to address all such issues. As the study advanced, the focus has tended to narrow to the major regional transportation modes – highway, rail, air, and ports – and to a few key environmental issues such as air quality, energy consumption, and land use. The lack of attention to other issues should not be interpreted as a rejection of their significance. However, in order to produce meaningful results in a few key areas, the study had to be focused. It is certainly possible that as follow-up activities proceed, greater attention could be paid to some of these issues. Included are the following:

- Local public transportation;
- Urban circulation strategies;
- General aviation;
- Bicycle travel;
- Tiltrotor aircraft technology;
- Pipelines;

- Ferry services;
- Water resources;
- Other environmental issues such as the possible impact of Electromagnetic Fields (EMF);
- Intermodal cross-subsidies; and
- Safety and security.

3.0 Issues of Regional Significance

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In an effort to provide focus to the study, one of the early efforts, along with the identification of the goals and objectives as described in Chapter 2.0, was to obtain consensus on a definition of issues of regional significance. Initially, a fairly lengthy list was developed as reflected in Section II of the Forecasting Report. The following list represents those issues which retained their significance throughout the course of the NETI study. Not all of these issues were translated into specific recommendations in the Plan of Cooperation, but many of them were.

3.1 Institutional

1. The ways in which government finances transportation projects, and the implicit subsidies to different modes inherent in these approaches, needs reexamination in light of constrained government finances, the priority given to intermodalism, and the impact of changing travel patterns and technology on the traditional user fee-based financing mechanisms such as the gasoline tax. The possibility of broadening the user base to charge equitably for all movements of people and goods should be examined. As part of this analysis, the potential for public/private partnerships should be examined.

2. There is a need for better freight data to facilitate regional planning and coordination.

3.2 Highways

1. Maintain in good working order the existing roadway infrastructure.

2. Develop strategies for identifying those situations requiring capacity expansion programs, and for meeting capacity limitations through means additional to the expansion of Single Occupant Vehicle (SOV) capacity including the development of High Occupancy Vehicle (HOV) facilities; operational improvements via new technologies; and Transportation Demand Management (TDM). The purpose should be to meet demand requirements while maintaining or reducing total vehicle trips and emissions during critical periods; and to determine which demand management strategies would be both effective and feasible.

3. The majority of freight traffic in New England is carried by motor carriers. The industry faces a range of pressures including competition within and outside the industry; increasing emphasis on "just-in-time" delivery; and increasing highway congestion. New England should examine the development of a consistent approach to commercial vehicle registration which will minimize regulatory barriers and inefficiencies between states, and incorporate commercial vehicle operational issues into ITS planning. Considerations include the critical role played by the motor carrier industry in the New England economy.

4. Define intercity bus services which may be essential to rural mobility and develop strategies for their maintenance; evaluate the potential for enhanced intercity bus commuter services to urban areas in conjunction with the development of HOV facilities; and provide better scheduling coordination with urban transit services and other modes as necessary.

3.3 Railroads

1. Maintain and enhance the Northeast Corridor and other main line passenger and freight transportation service.

2. The role of railroads in providing a land bridge between seaport connections is a major issue affecting the future role of both New England port and rail freight facilities. This will likely require providing double-stack clearances over railroad tracks on key routes, which will impact highway programs as well. Market forces affecting the shipping industry will have a major impact on the growth of demand for these facilities; examples include the preference of the automobile industry to concentrate shipments at a small number of major centers, and the increasing growth of the Southeast Asian market with a shipping orientation through the Suez Canal to East Coast ports.

3. In addition to the intermodal market for railroad freight service, another potential growth market which has been identified is the shipment of waste material. With the closure of local landfills, there are growing opportunities for longer distance (i.e., railroad competitive) movements to reclamation or disposal sites. In New England, the waste paper industry may be a major destination of this market for this type of commodity.

4. There is considerable interest in the expansion of commuter rail services, many of which serve more than one state. Multi-state financing is a particularly critical issue, as is the sharing of facilities also used by intercity passenger and freight services.

5. There are many projects and studies underway for the implementation of interstate high speed ground transportation facilities in the Boston-New York-Washington-Portland corridor and Boston-Albany corridor. The interrelationship of these services

with commuter air service and interstate auto travel is critical in determining an appropriate investment strategy for the region.

6. Many rail facilities in New England still face the threat of abandonment due to under-utilization. These facilities often provide the only rail service to existing manufacturing operations. The development of an abandonment strategy and identification of a core New England rail network worth preserving is an issue of regional significance.

7. The provision of an interconnected passenger rail system within New England and between New England and the larger Amtrak system is of regional significance.

8. Cross-Hudson rail freight capacity including a possible new connection is of regional significance in the maintenance of a viable New England rail freight service integrated with national service, particularly with respect to expanded intermodal traffic.

9. Overlapping operational responsibilities on rail corridors with multiple users are a major jurisdictional issue.

10. The apparent ISTEA prohibition on the use of FHWA funds for a variety of rail freight improvements is a regional issue which requires clarification by the federal government.

3.4 Airports

1. Ground access to airports is a critical intermodal issue which is a major factor in the potential regional role which an airport can play. This issue is most critical today at Logan Airport. A related issue is the prohibition on the use of passenger facility charges for ground transportation services indirectly related to airport operations.

2. The growth of airport demand is inversely related to the development of high speed ground transportation services, which will in turn impact the capacity requirements of some New England airports in the future.

3. The development of a regional air transportation system, which may or may not involve a single second major regional airport or a system of smaller regional airports, is clearly of regional significance. Related to this issue is commuter access to Logan Airport from smaller New England airports for access to national and international long-haul service.

4. Bradley International Airport in Windsor Locks, Connecticut is an under-utilized facility which represents the second largest airport in the region with twice as many annual enplanements as the next busiest facilities (Bangor and Providence) and four

times as many as any other facility. Maximizing its potential role in the regional air transportation system is an important issue.

5. The route and fare structures available to New England residents and businesses affect issues of economic growth and consumer choice. The airport surveys conducted in the inventory phase indicated relative satisfaction with the route system but some concern with fare structure. The latter could be improved through the development of low cost carriers serving short-haul markets. While the growth of such carriers is primarily market-driven, New England needs to position itself through a regional air transportation strategy to take maximum advantage of such developments.

6. The impact of industry-wide market trends such as larger aircraft serving major hubs and smaller aircraft serving other destinations, the decline of general aviation, reduction in industry operating costs, the growth of commuter and international traffic, and FAA technology improvements in Air Traffic Control (ATC) will impact New England decisions regarding airport capacity.

7. Funding of capital improvement projects and operating subsidies are key concerns for airports, in particular the uncertain future of the Airport Improvement Program (AIP) and the Essential Air Service (EAS) Program.

3.5 Ports

1. As identified above, intermodal rail connections are critical to the future of New England ports.

2. The ability to expand port capacity is impacted by environmental controversies over harbor dredging.

3. New international trade agreements, and market trends in the shipping industry, will have major impacts on the development of port strategies.

4. The vast majority of cargo (90 percent) which passes through New England ports are imported fuel products. While this market may slowly decline due to greater reliance on cleaner burning fuels and the introduction of more energy efficient vehicles individual markets remain strong. The future of the ports is really dependent on what happens with the other 10 percent of cargo, and this will be the focus of NETI. Of this 10 percent, the key elements are those cargos which are competitive in nature and can readily shift among ports as compared to those which are largely dependent on a local hinterland market.

5. In addition to gross tonnage, passenger volume and the dollar value of cargo should also be considered in evaluating the role of New England ports.

6. Water passenger services should be encouraged for their role in enhancing local tourist markets and providing essential transportation connections.

7. The development of a regional port strategy which focuses on maximizing New England port activity vis-a-vis other regions and modes rather than on intraregional competition, is a critical NETI issue.

3.6 Trends in Commuter Behavior

Changing demographic patterns, in combination with specific work-related trends which can be encouraged as a matter of public policy such as telecommuting and other flexible work arrangements, has the potential to significantly impact regional travel growth in positive ways so as to reduce congestion and hence the need for future capacity expansion projects.

3.7 Economic Vitality

1. A more efficient and time-sensitive transportation system is desirable to meet the "just-in-time" delivery requirements of the manufacturers of high tech and other smaller, lighter goods which are increasingly replacing the traditional heavy industry manufacturing base.

2. Better external connections are required to take advantage of export opportunities generated by the changing international trade climate, the continued increase in tourist traffic into the region, and increases in frequent business travel into and out of the region.

3. The increase in tourist traffic also drives the need for improvements to local access facilities which may experience severe seasonal peaking requirements.

4. The development of new internal "cluster" industries, such as biotechnology, requires improved intraregional transportation systems.

5. The continued growth in population, employment, and economic activity, though projected to be slower than during the past two decades in New England and slower than for the nation as a whole over the next two decades, will nevertheless substantially increase demand for transportation services. The greatest numerical increases will occur in southern New England where transportation systems are today the most congested. The greatest proportional increases will occur in northern New England where facilities are in general less congested but also less robust.

3.8 Air Quality and Energy

1. The critical pollutant of regional significance is ozone since its concentration is impacted by transport over wide areas, and it represents the most serious non-attainment problem in New England.

2. In the past decade, gains in vehicle efficiency have been partially offset by increases in vehicle miles traveled. It may be desirable to develop a regional clean and alternative vehicle fuel program which meets the requirements of both CAAA and NEPAct, is acceptable to industry, and for which an infrastructure of critical mass can be created.

3.9 Other Environmental Issues

1. Wetland and waterways protection remains an issue of regional significance given its broad impact on transportation investment decision making. Related issues include stormwater run-off into sensitive waterways and the pending reauthorization of the Clean Water Act.

2. Land use planning provides a major policy opportunity for shaping future transportation investment decisions in ways that can minimize growth in VMT and unnecessary SOV trips and promote more efficient freight movement, and thus assist in achieving compliance with CAAA mandates. Transportation decisions could potentially help to develop new land use patterns, while being sensitive to patterns which may want to emerge for other reasons. Transportation planning has the potential to promote regional considerations, which in turn could promote a different pattern of land use development.

3. Aesthetics and quality of life issues are increasingly critical in transportation decision making as New England continues its transformation from a manufacturing to a service-based economy. This includes those characteristics which help to define the New England environment for residents and visitors, including personal mobility; rural, suburban and urban lifestyles; traditional town centers; rural vistas; historic places; and recreational facilities.

4.0 Existing Conditions

4.0 Existing Conditions

4.1 Institutional

Three federal laws passed in the 1990s are critical in defining the present focus of transportation planning activities in the region – the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA); the 1990 Clean Air Act Amendments (CAAA); and the 1992 National Energy Policy Act (NEPAct). In defining what is meant by a "current policies" alternative scenario, these laws have created a very different definition than what would have been the case in the late 1980s. Because these laws are still relatively new and not yet completely implemented, their full implications are not always fully understood. Further, the regulatory process remains dynamic. Therefore, the development of a "current policies" scenario was more challenging than would have previously been the case.

ISTEA differs from previous transportation authorization legislation in its strengthened emphasis on the statewide and Metropolitan Planning Organization (MPO) planning process; in providing states with an increased ability to shift funding among modes and regions; in more strongly emphasizing the importance of intermodal connections; and in requiring that states develop six transportation management systems in the areas of pavements, bridges, safety, congestion, intermodal, and public transit.

The Clean Air Act Amendments (CAAA) established the Ozone Transport Commission (OTC) consisting of twelve Northeast states (including all of New England) and the District of Columbia, and empowered the OTC to petition EPA for the imposition of mandatory air quality strategies on the region. As a result, the OTC petitioned EPA to impose a Low Emitting Vehicle (LEV) program. This has become a major element in the NETI analysis and Plan of Cooperation.

The CAAA also contains a clean fuels program for vehicle fleets in certain geographic areas; schedules for the submission of State Implementation Plans (SIPs) demonstrating achievement of targeted reductions in hydrocarbon emissions; demonstration that state transportation plans conform with the SIP goals for mobile source emissions; a requirement that emissions associated with growth be offset by mitigation measures in the SIP; and the imposition by EPA of sanctions on federal highway funds if a state is found to be in non-compliance with provisions of the Clean Air Act.

The CAAA is clearly a major element in transportation planning today, and was the focal point of much NETI analysis and discussion in regard to long-term projections of growth in Vehicle Miles Traveled (VMT) and its relative impact on air quality in comparison to potential changes in vehicle technology.

The National Energy Policy Act (NEPAct) contains a requirement for the use of alternative fuels (i.e., non-gasoline powered vehicles) in vehicle fleets which is similar but not identical to the clean fuels requirement of the CAAA. The combination of the two acts, as well as New England's air quality issues and traditional dependence on imported petroleum products, spurred the interest of the NETI participants in the development of a regional approach to addressing these issues.

Other laws which are more modal-specific are addressed in the following sections where appropriate.

4.2 Highways

The analysis of highway operations in the region focused on the National Highway System (NHS) as submitted to Congress by the U.S. Department of Transportation. The NHS was established by ISTEA to provide an interconnected system of principal arterial routes which will serve major population centers, international border crossings, ports, airports, public transportation facilities, other intermodal transportation facilities and other major travel destinations; meet national defense requirements; and serve interstate and interregional travel. The NHS consists of those Interstate and other U.S. and state roadways which serve these functions. The complete New England NHS system is shown in Figure 4.1.

The focus of the NETI highway analysis was on determining congestion levels on interstate highways and other NHS routes of regional significance under different assumptions about the growth in Vehicle Miles Traveled (VMT). Maximum service flow rates were calculated based on the number of lanes, lane widths, design speed, truck percentage, and the development environment. Recent annual average daily traffic volumes and peak hour factors were used to determine volume to capacity (v/c) ratios for peak hour traffic for individual roadway segments. V/C ratios in excess of 0.9 were considered congested.

Figures 4.2 and 4.3 show areas of existing peak hour congestion on New England interstate highways and a limited number of other NHS routes which serve regional or interstate functions. It should be noted that congestion may also exist on other NHS routes due to 1) seasonal variations in traffic volume; 2) the routes are primarily intrastate in nature and thus not shown; or 3) different results can be obtained by the application of different methodologies.

As shown in Figures 4.2 and Figure 4.3, congestion exists today on I-95 in Connecticut, Rhode Island, and Massachusetts (MA 128); I-91, I-84, and the Merritt Parkway in Connecticut; I-93 in Massachusetts and New Hampshire; and US 3/Everett Turnpike in Massachusetts and New Hampshire respectively. Twenty (20) percent of existing interstate highway miles are congested; 12 percent of all NHS miles exclusive of Massachusetts are congested; and 7 percent of all Massachusetts NHS miles are congested.

Figure 4.1 Interstate Highways and NHS Routes

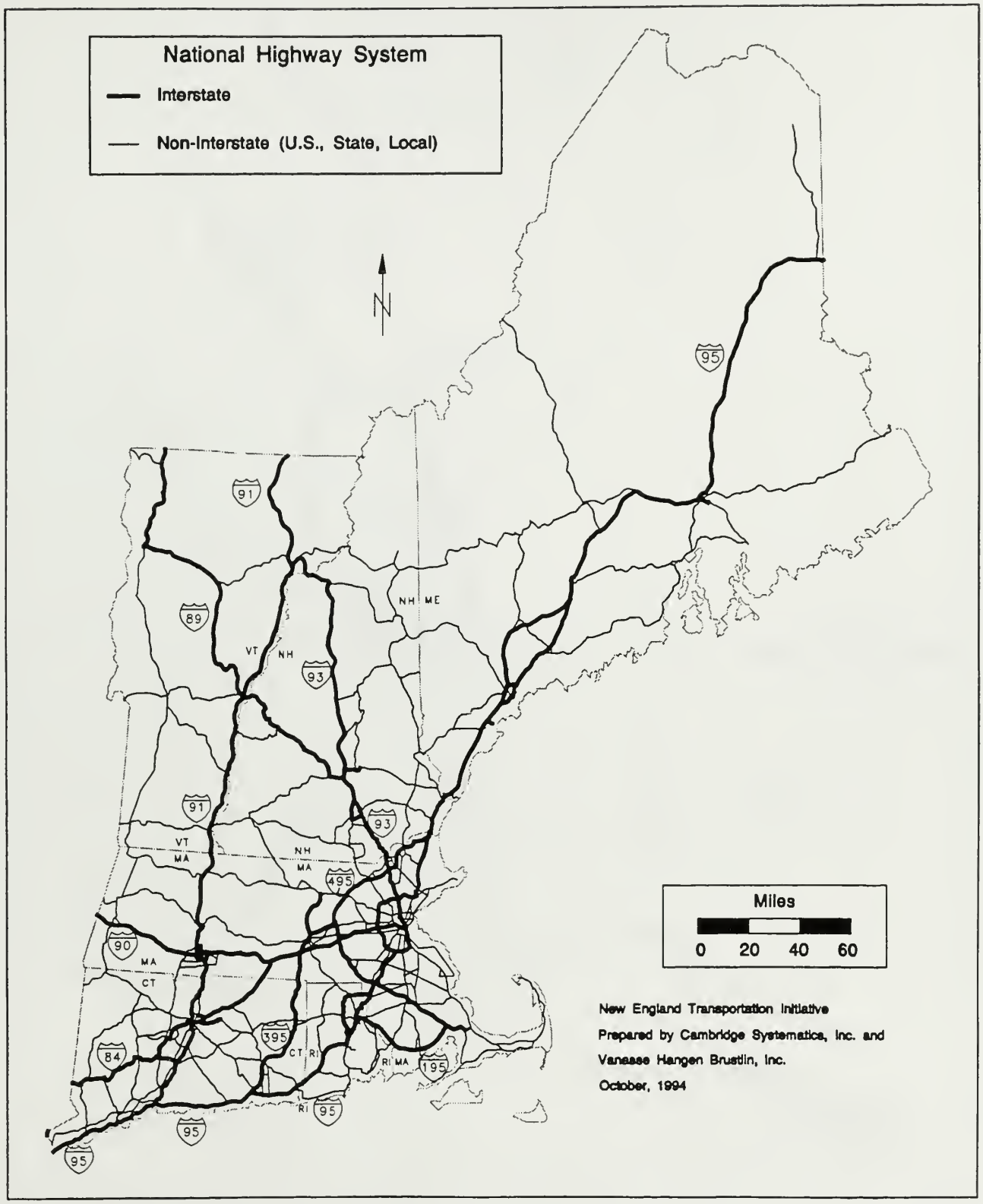


Figure 4.2 Highway Congestion – Existing Conditions

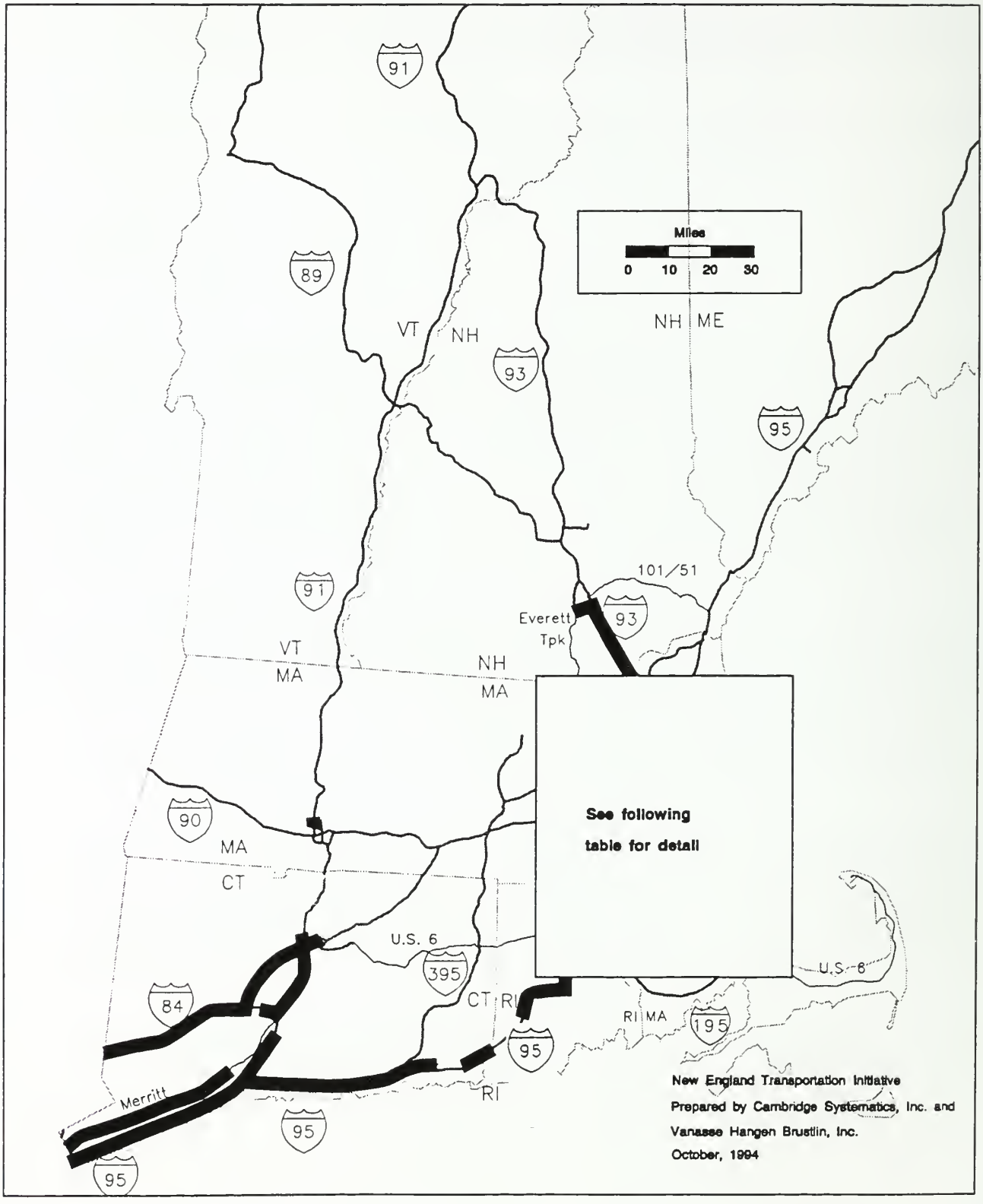
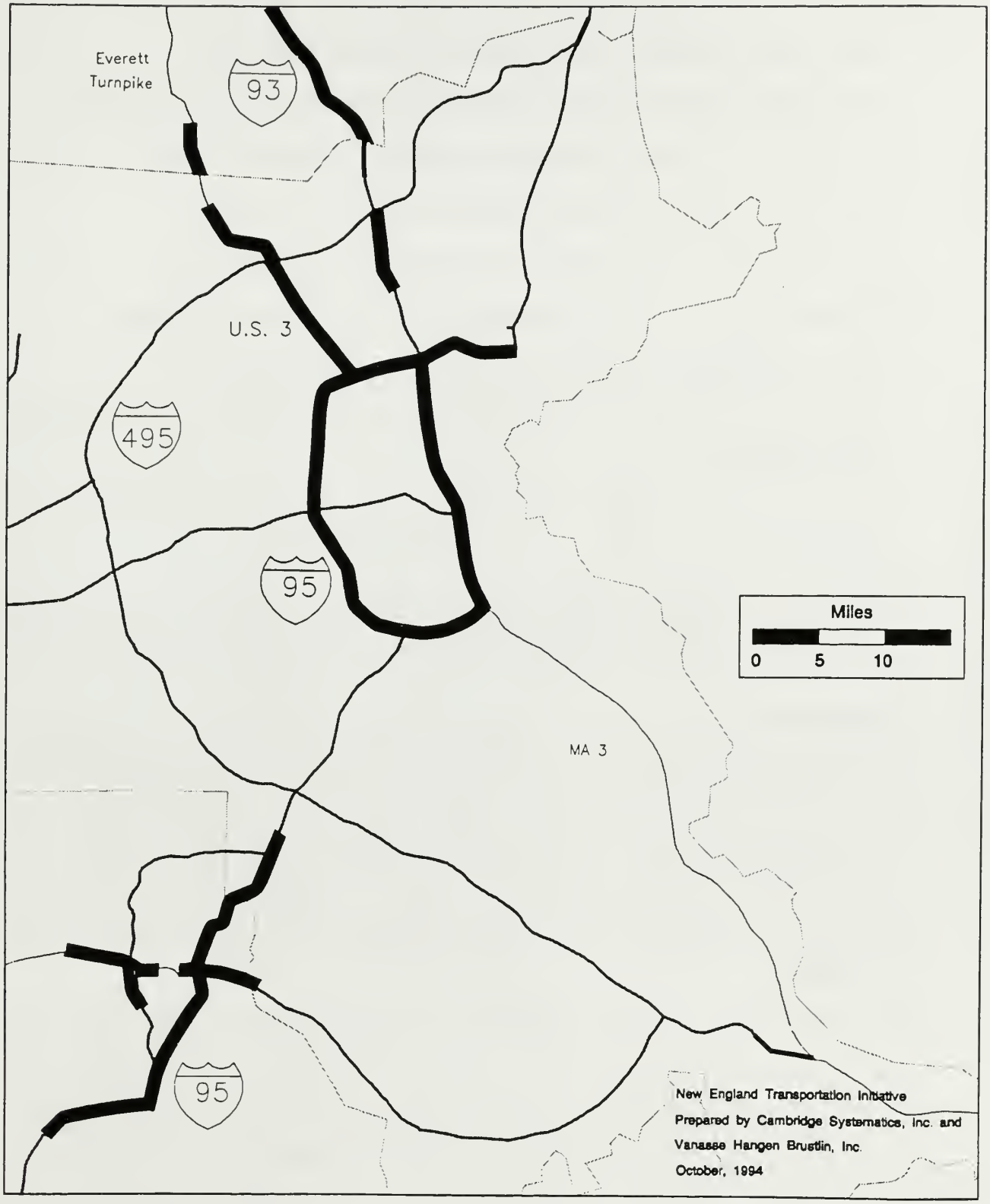


Figure 4.3 Highway Congestion – Existing Conditions, Boston Metropolitan Area



While few new highways are planned in the New England region, there are plans for capacity expansion or operational improvements to several of the congested routes identified above (as well as to other routes not discussed here). These include the following:

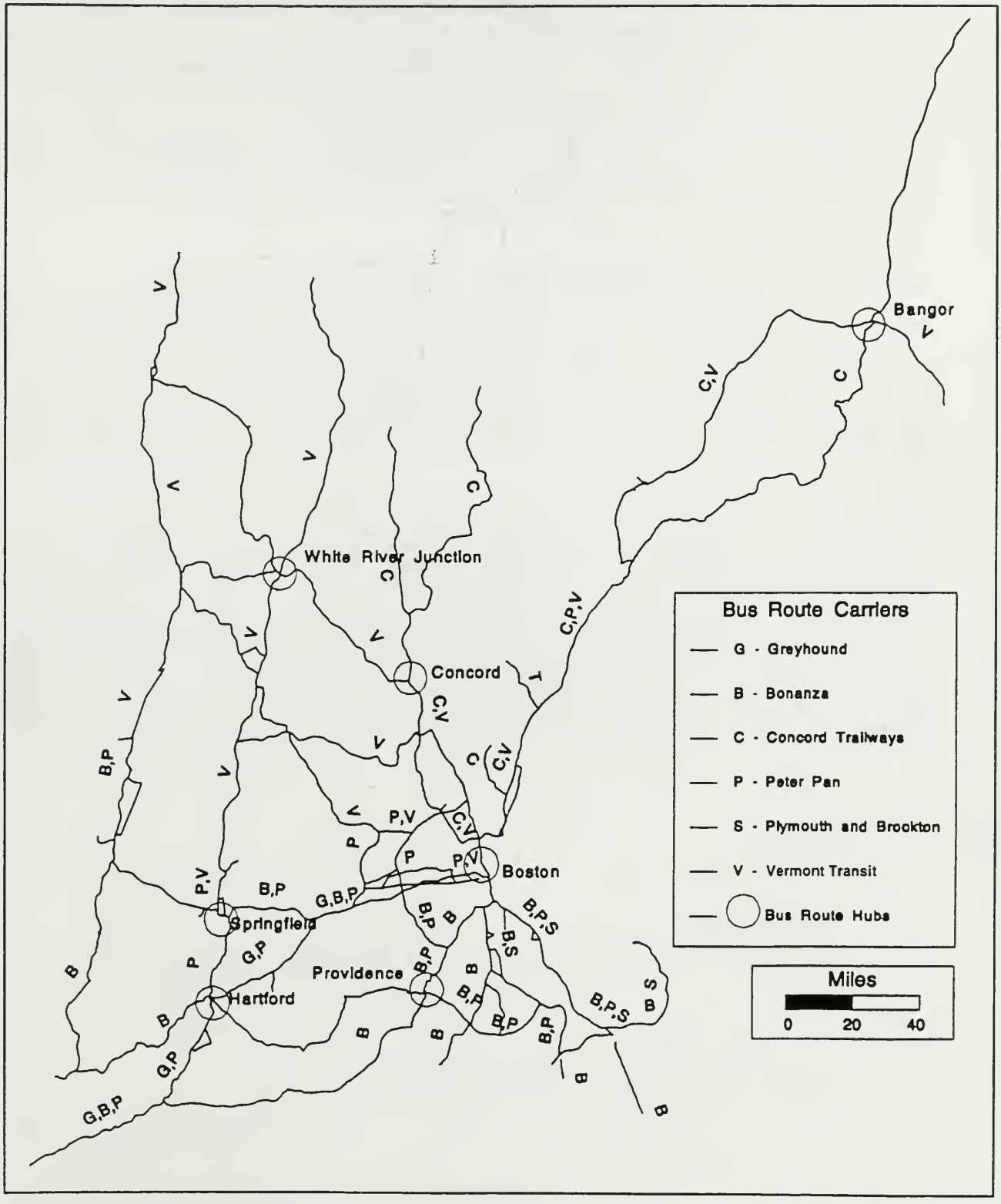
- I-90 extended eastward to Logan Airport via Third Harbor Tunnel;
- I-93 expanded from six to eight lanes in downtown Boston (Central Artery Project);
- MA 128 (I-95/I-93) expanded from six to eight lanes (either SOV or HOV);
- ITS projects in Boston metropolitan region and on I-95 in Connecticut;
- I-93 expanded from four to six lanes from Manchester to MA border;
- US 3/F.E. Everett Turnpike expanded from four to six lanes in MA and NH;
- ITS and TDM projects on the Maine Turnpike south of Brunswick;
- I-84 expanded from four to six lanes between Waterbury and I-691, and extension of HOV facilities; and
- Construction of VT 289 (Chittenden County Circumferential Highway) in the Burlington area.

In addition to this general analysis of highway operations, NETI also examined issues related to motor carrier operations – bus and truck. Routes of six major regional bus carriers are shown in Figure 4.4. Major bus hubs are located in Boston, Hartford, Providence and White River Junction. Smaller hubs include Concord, Bangor and Springfield.

Buses provide intercity, commuter, and charter services. While the latter two types of operations are generally growing, intercity bus service has been in a long period of decline resulting in the abandonment of many rural connections. In 1963, 30 percent of national intercity travel was on buses; by 1981, this figure had dropped to 12 percent. The number of locations served dropped from 17,000 in 1968 to 12,000 in 1982 to 6,000 in 1991. In 1982, the Bus Regulatory Reform Act reduced the authority of the Interstate Commerce Commission (ICC) and state regulatory agencies and allowed bus companies greater flexibility to set fares, enter markets and discontinue unprofitable service. A result has been healthy competitive growth in the commuter and charter markets and the abandonment of intercity services in rural areas.

Several New England states have attempted to redress this situation. ISTEA permits states to spend 15 percent of Section 18 rural transportation funds on intercity services. Maine and Massachusetts provide operating and capital assistance; and Massachusetts provides terminal construction assistance. Vermont uses rural ridematch services provided by transit agencies to provide intercity access to transportation disadvantaged residents of rural areas. New Hampshire is constructing park and ride facilities for commuter bus

Figure 4.4 Intercity and Commuter Bus Routes



operations. Massachusetts and Connecticut have extensive HOV construction programs in the Boston and Hartford areas.

Trucks are the dominant mode of freight transportation in New England. In 1991, 80 percent of manufactured freight moved in the region was by truck, an increase of 37 percent from the 66 percent carried in 1982. During this period, the rail share dropped from 12 percent to 6 percent; waterborne movements dropped from 22 percent to 13 percent; and the air share remained stable at 1 percent. All of the 80 largest manufacturers in the region use trucks as at least part of their goods movement strategy. A significant imbalance exists between inbound and outbound freight movements in the region, due to its location at one end of the national transportation infrastructure. As such, a far greater amount of goods is shipped into the region than leaves the region.

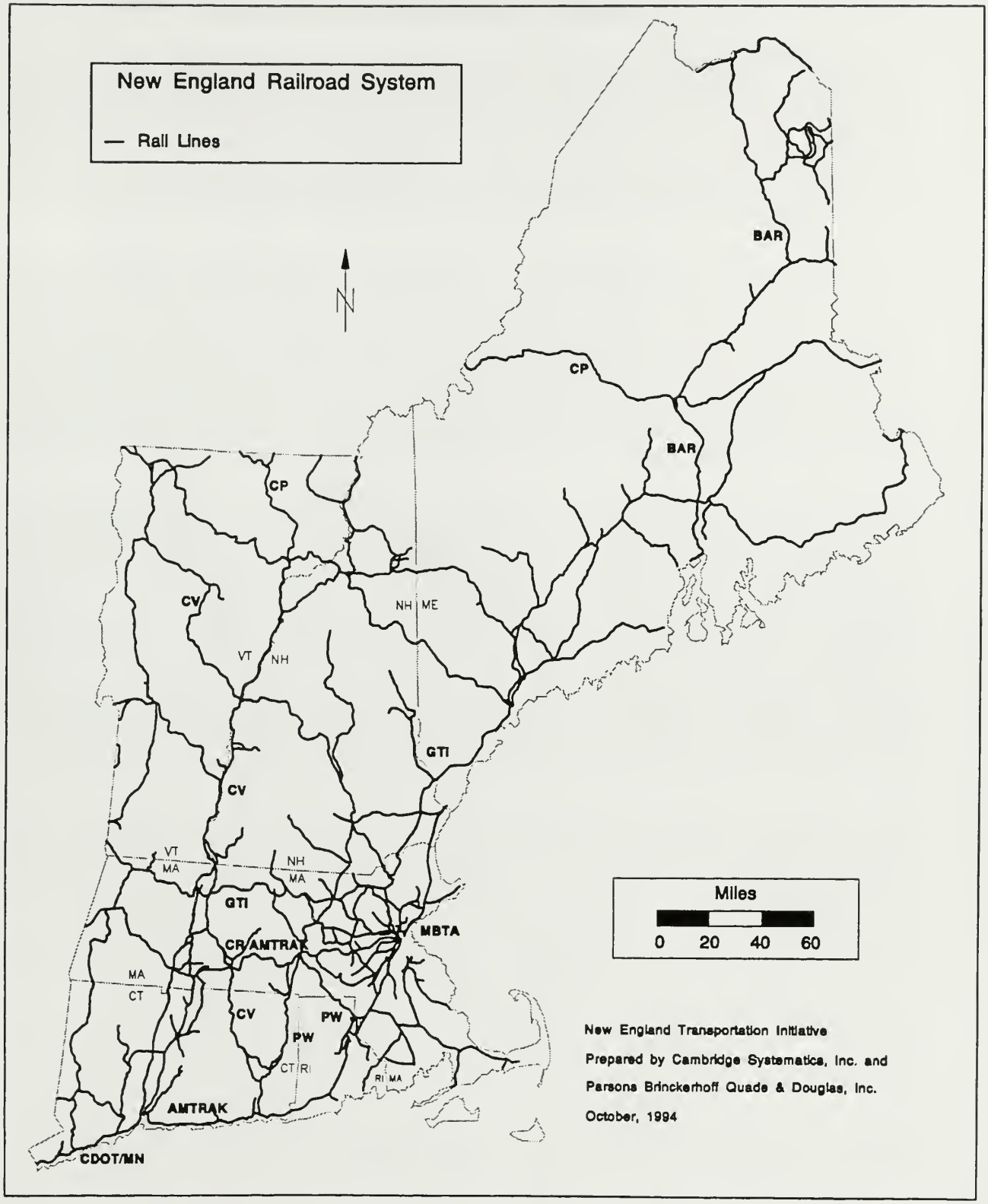
In addition to providing direct point-to-point service, the trucking industry also supports the movement of freight by other modes. For example, one of the primary growth areas for rail in New England is in intermodal containerized and piggybacked freight which are "truck dependent." Unlike other U.S. regions, very few containers in New England are placed directly from ship onto rail cars for shipment without drayage by truck. The principal container facilities in New England are in Boston; trucks move these containers to their final destinations. Even goods which move primarily via air freight are transported to and from air cargo facilities by truck.

Trucking companies operating in multiple states are subject to different regulations and taxation policies in each state. While the New England states are attempting to achieve greater uniformity, the issue of regulatory complexity and inconsistency remains significant. Other issues facing the industry include competitive pressures; the increased importance on customer service such as the introduction of just-in-time manufacturing and distribution systems; increasing roadway congestion; and institutional resistance within both the industry and the public sectors to changes in business and regulatory procedures and in the introduction of Intelligent Transportation System (ITS) technologies which are oriented toward the removal and standardization of regulatory barriers and procedures.

4.3 Railroads

There are 31 railroads which own or operate railroad lines in New England. The complete New England rail network is shown in Figure 4.5. There are seven large regional carriers which formed the focus of the NETI study: Amtrak, Conrail, Guilford Transportation Industries, Canadian Pacific, Bangor and Aroostook, Central Vermont, and Providence and Worcester. In addition, two public agencies – the Massachusetts Bay Transportation Authority (MBTA) and the Connecticut Department of Transportation – own substantial commuter rail networks in the Boston metropolitan area and southwest Connecticut respectively. These systems are operated under contract by Amtrak in Massachusetts and by the Metro North Railroad in Connecticut. Intercity passenger service in the region is operated by Amtrak and includes Shore Line service between Boston, New York City and

Figure 4.5 New England Railroad Network



points south; Inland Route service from Boston to points west and south via Springfield and Hartford; and the Montrealer (now programmed for elimination) from NYC to Montreal via New London and points in Massachusetts and Vermont. An increasing number of small tourist and specialty trains are also operated by private interests.

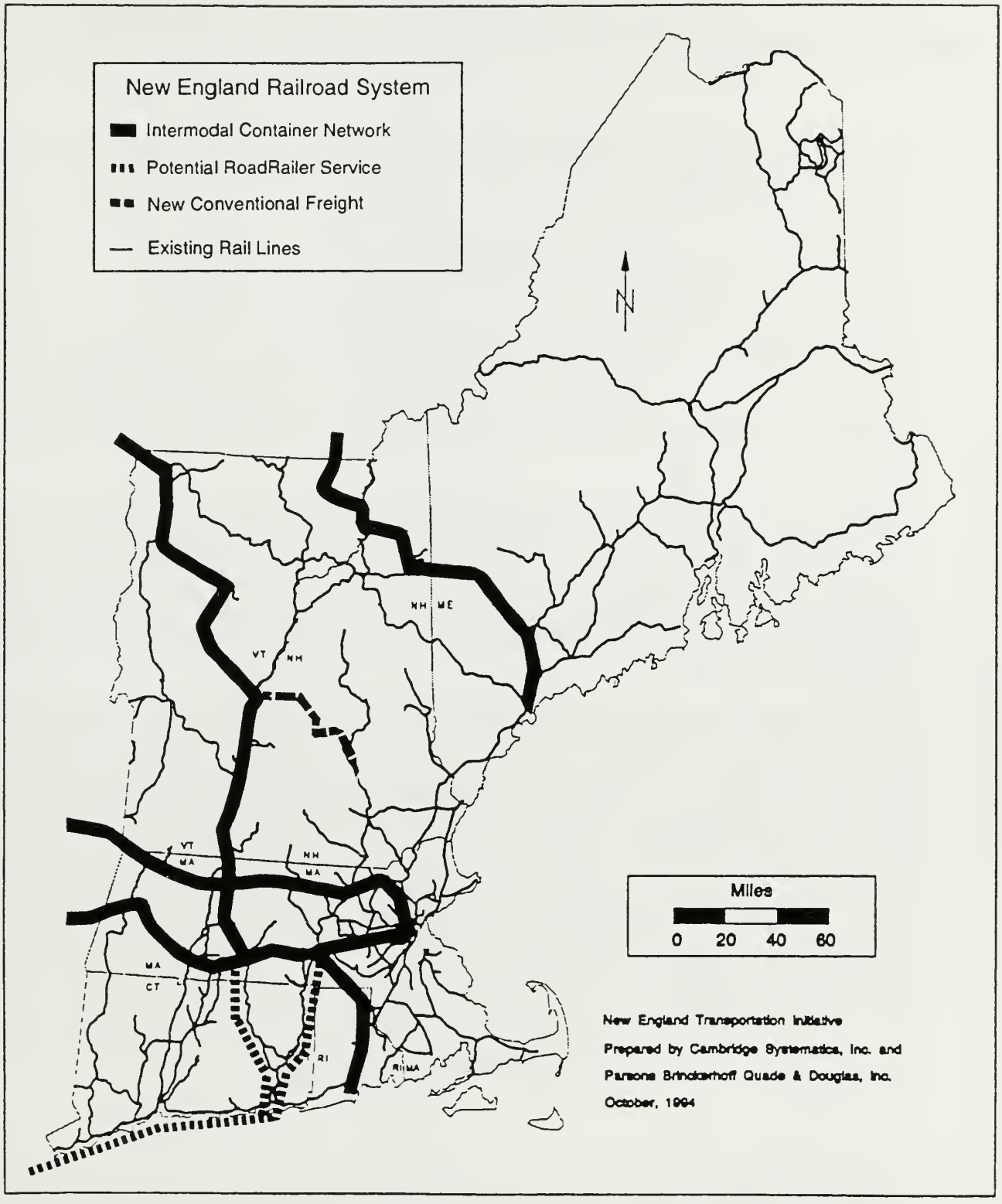
The approved Northeast Corridor Transportation Plan (NCTP) will provide three-hour service between Boston and NYC via electrification from New Haven north; procurement of high speed train sets; and related infrastructure improvements including track, bridges, and signal systems. A 21 percent increase in total intercity travel between Boston, NYC, and intermediate points is forecast for the year 2010, or about one percent annually. The NCTP improvements and increasing highway and airport congestion will increase rail's share of the market from 5.9 percent today to 16.8 percent.

The states of Massachusetts and New York are conducting a study of high speed rail options between Boston and Albany. Plans have been approved for the extension of passenger rail service from Boston to Portland but implementation may be delayed due to changes in the political climate. Due to systemwide budget constraints, Amtrak has announced plans to terminate the Montrealer, and to suspend nearly all Boston-Springfield Inland Route service. Massachusetts and Connecticut continue to expand and make operational improvements in their commuter rail systems, while Vermont has plans for development of commuter rail service to Burlington and a tourist train loop.

In 1992, the six New England states generated 27.4 million tons of rail freight traffic. Reflecting the region's status as a consumer of raw materials and finished products, terminating tonnage accounted for 72 percent of this volume. Two categories deemed to be areas of exceptional growth opportunities were Intermodal and Waste Materials. The NETI project focused on Intermodal freight movements of regional significance. Intermodal freight movements are driven by advances in container technologies requiring higher overhead clearances for double stack container cars or tri-level auto carriers. The older infrastructure of New England's roads and bridges presents a particular challenge in this regard. Alternative technologies are also being developed such as RoadRailer operations which entail the use of special rubber-tired truck trailers that are fitted onto rail wheel sets and combined with other units to form a train with truck bodies carrying in-train forces.

Double stack and similar technologies provide an opportunity for New England to shift some long-haul truck deliveries to intermodal rail/truck; and for New England ports to handle exports from the Northeast and Midwest, and to participate in land bridge traffic involving the transshipment of goods between Europe and Asia. There is presently no double stack rail access to any New England port, with service extending as far east as Worcester. Massachusetts has proposed a program to extend double stack access to Beacon Yards in Boston which would still require truck drayage to the port itself, and to increase vertical clearances on both the Conrail Mainline and Guilford line west of Worcester and Ayer respectively to accommodate the new generation of containers. Rhode Island is proposing construction of a third track and improved vertical clearances on the Amtrak Shore Line between Kingston and Providence to accommodate double stack container and tri-level auto carrier service to the Port of Davisville. Vermont is proposing to eliminate a single impediment to double stack service on the Central Vermont line in Bellows Falls. As shown by the sample network in Figure 4.6, these changes plus possible RoadRailer service

Figure 4.6 Potential Rail Freight Improvements



in Connecticut could create a regionally integrated double stack network. Local short-lines could be connected to this or similar networks to benefit all states.

4.4 Airports

There are over 600 commercial and general aviation airports in the New England region, of which 24 have significant levels of scheduled passenger service.[1] The NETI study focused on nine airports which were judged to be of regional significance. The total annual enplanements for each selected airport are shown in Figure 4.7 and the regional share of annual enplanements accounted for by each airport are shown in Figure 4.8. Seven of these airports – Logan (Boston), Bradley (Hartford), Bangor, Green (Providence), Portland, Manchester, and Burlington account for 95 percent of all regional enplanements. Two other airports – Pease (NH) and Worcester – were identified by their respective states as being of regional significance even though current enplanements are small. Logan Airport accounts for 61 percent of all regional enplanements and Bradley accounts for 13 percent. Since most air freight travels in the cargo bays of passenger aircraft, the distribution of freight traffic is similar. The one potential exception is the dedicated fleets of the various overnight and express package services.

The major issue of regional significance is the region's overdependence on Logan Airport which experiences significant air and ground-side congestion while most other facilities are underutilized. As shown in Figure 4.9, while Logan accommodates 3.5 trips per service area population, the New England wide average is 2.2 and all of the other second-tier airports except Burlington fall below the average. Thus, it is not surprising that the focus of airport improvements in the region is on terminal and ground access facilities rather than expansion of air side capacity.

The focus of airport planning efforts in the region has shifted during the course of the NETI study from the potential for development of a major second regional airport to strategies for more efficiently distributing demand to existing underutilized facilities. Major improvement projects are either planned or underway at Bradley, Green, and Manchester. Of particular importance to northern New England states is dependence on low volume commuter flights to Logan for access to the rest of the national air space system, and the competition between their access requirements and Logan's role as the major long-haul national and international gateway in the region. Because of the continuing importance of Logan to the New England air transportation system, the Logan 2000 program for modernization of the facilities has regional significance. The Logan 2000 program includes projects designed to provide capacity for the entire region through expansion of the international arrivals terminal, Terminal E, development of a west garage to consolidate auto parking, replacement of Terminal A with a larger terminal better integrated with the terminal system and, finally, development of a people mover system to tie all the terminal areas together.

1/ Since completion of the Inventory, Rockland, Maine has become the twenty-fourth airport to offer scheduled services.

Figure 4.7 New England Airports – Total Annual Enplanements by Location (Thousands)

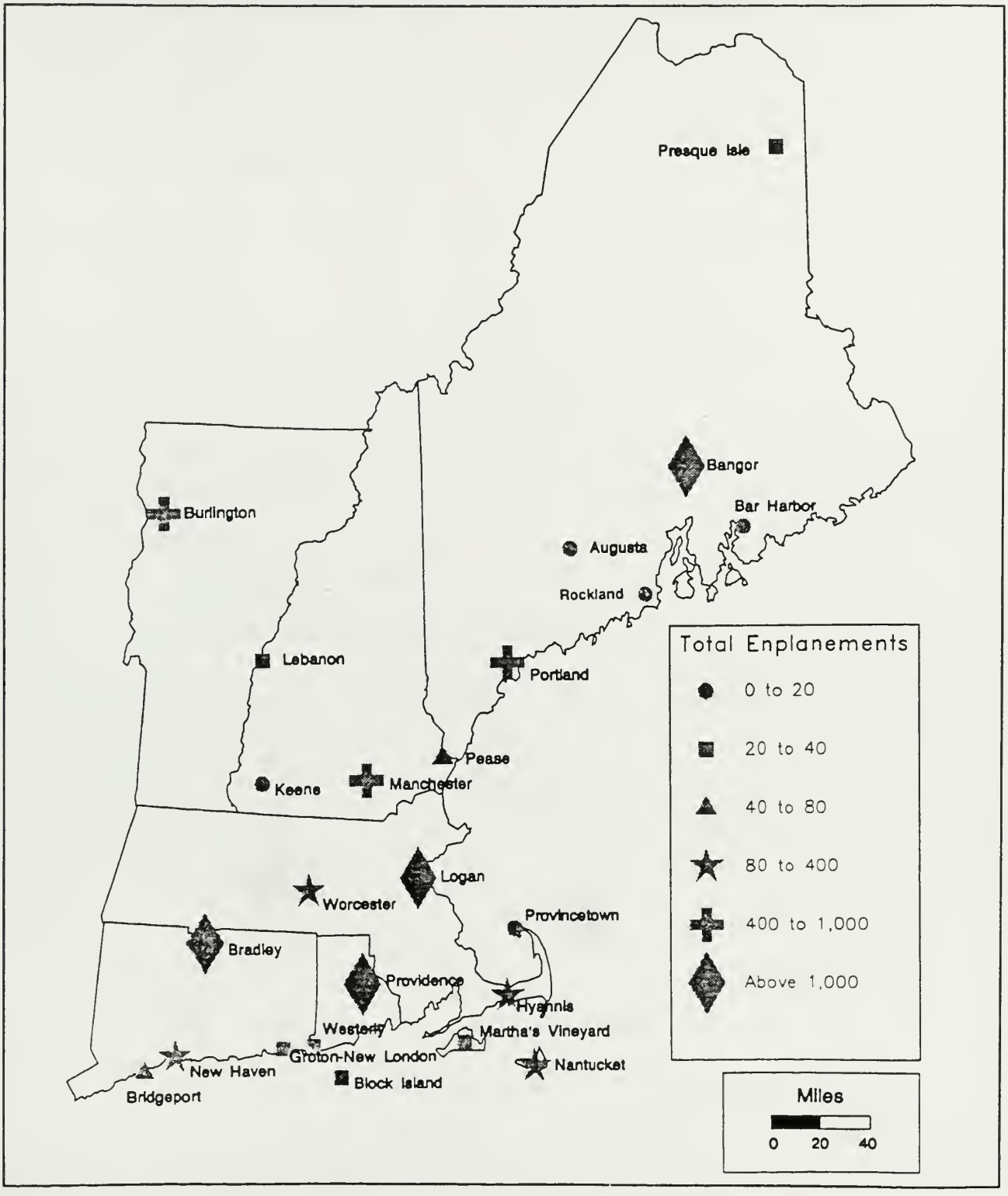


Figure 4.8 New England Airports – Regional Share of Total Annual Enplanements

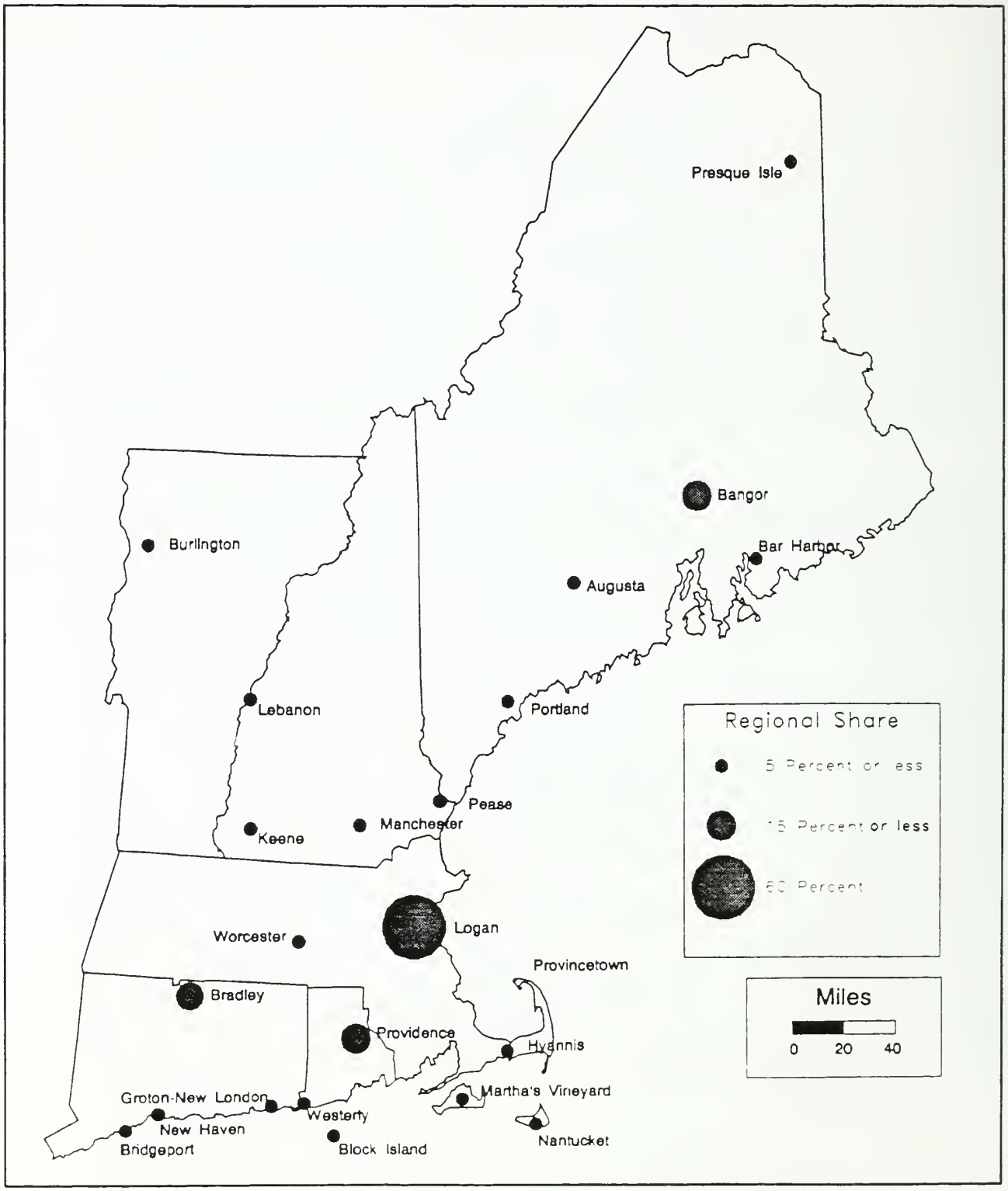
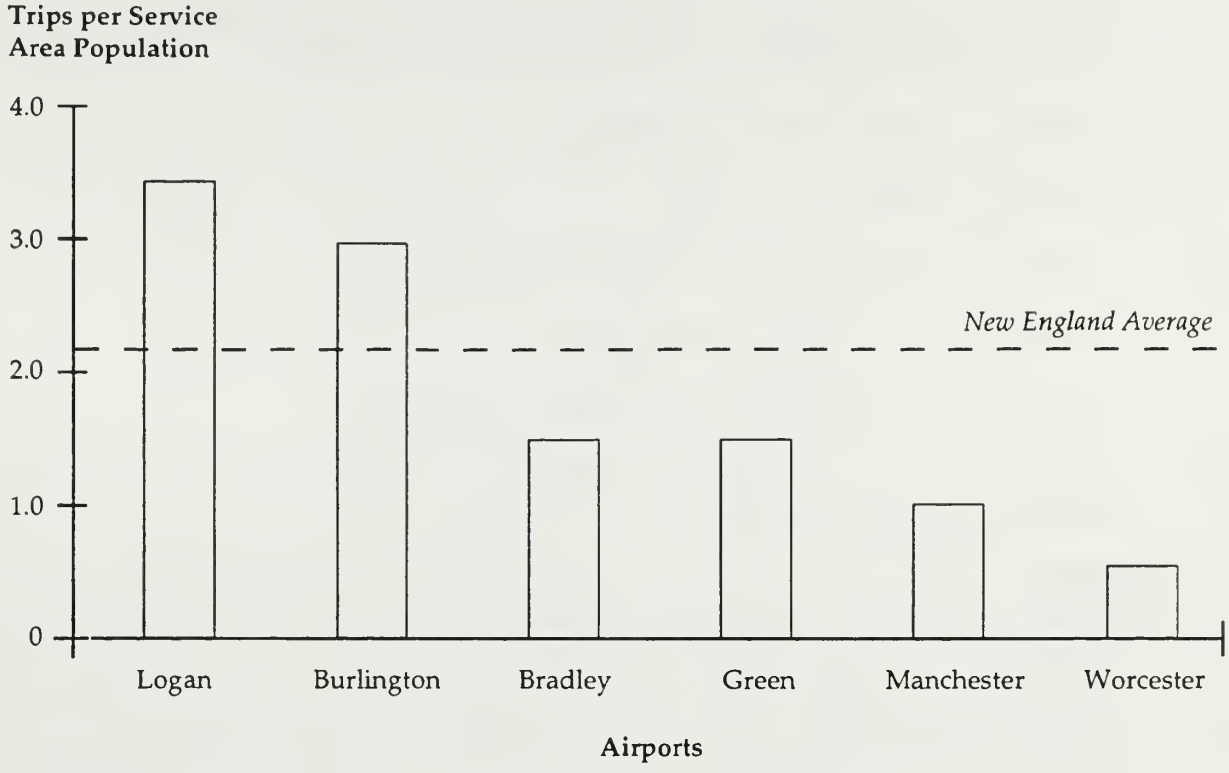


Figure 4.9 Air Trips per Service Area Population



Source: New England Council Scope of Work for regional airport study.

4.5 Ports

The NETI study focused on 12 ports as being of regional significance based on total tonnage handled or self-definition by the states. The ports are as follows:

- Maine: Eastport, Searsport, Portland;
- New Hampshire: Portsmouth;
- Massachusetts: Boston, New Bedford, Fall River;
- Rhode Island: Providence, Davisville; and
- Connecticut: New London, New Haven, Bridgeport.

In addition, Burlington, Vermont, while not an ocean port, handles freight and passenger traffic across Lake Champlain.

Figure 4.10 shows the annual tonnage of these ports. The primary function of New England ports is the importation of petroleum and other fuel products. As shown in Figure 4.11, 91 percent of all imports fall into these categories. As shown in Figure 4.12, the New England ports serve primarily an importation role. For the purposes of the NETI study, the importation of fuel products was accepted as a given with the future role of New England ports being dependent on the growth of other import and export markets. Currently, ninety-five percent of North Atlantic general cargo trade goes through one of four ports: New York/New Jersey, Philadelphia, Norfolk and Baltimore.

Boston and Portland are the primary container ports in New England serving mainly regional hinterland markets rather than national or land bridge trade. Rhode Island plans call for Davisville to become a major container facility. Boston and Davisville are the major importation points for autos coming into the region. Other ports have focused on particular niche markets such as Eastport (exportation of Maine wood products); New Bedford (exportation of fish products); and Bridgeport (importation of fresh fruits).

New England ports face several challenges in competing with other East Coast ports including lack of double stack rail access; inadequate dredging depths for accommodating the new generation of container ships; trends in the shipping industry for consolidation at a few key ports; and high relative labor costs. Positive attributes include one day closer sailing to Europe and less land side congestion than in the New York City area.

Figure 4.10 New England Ports – Annual Tonnage by Location

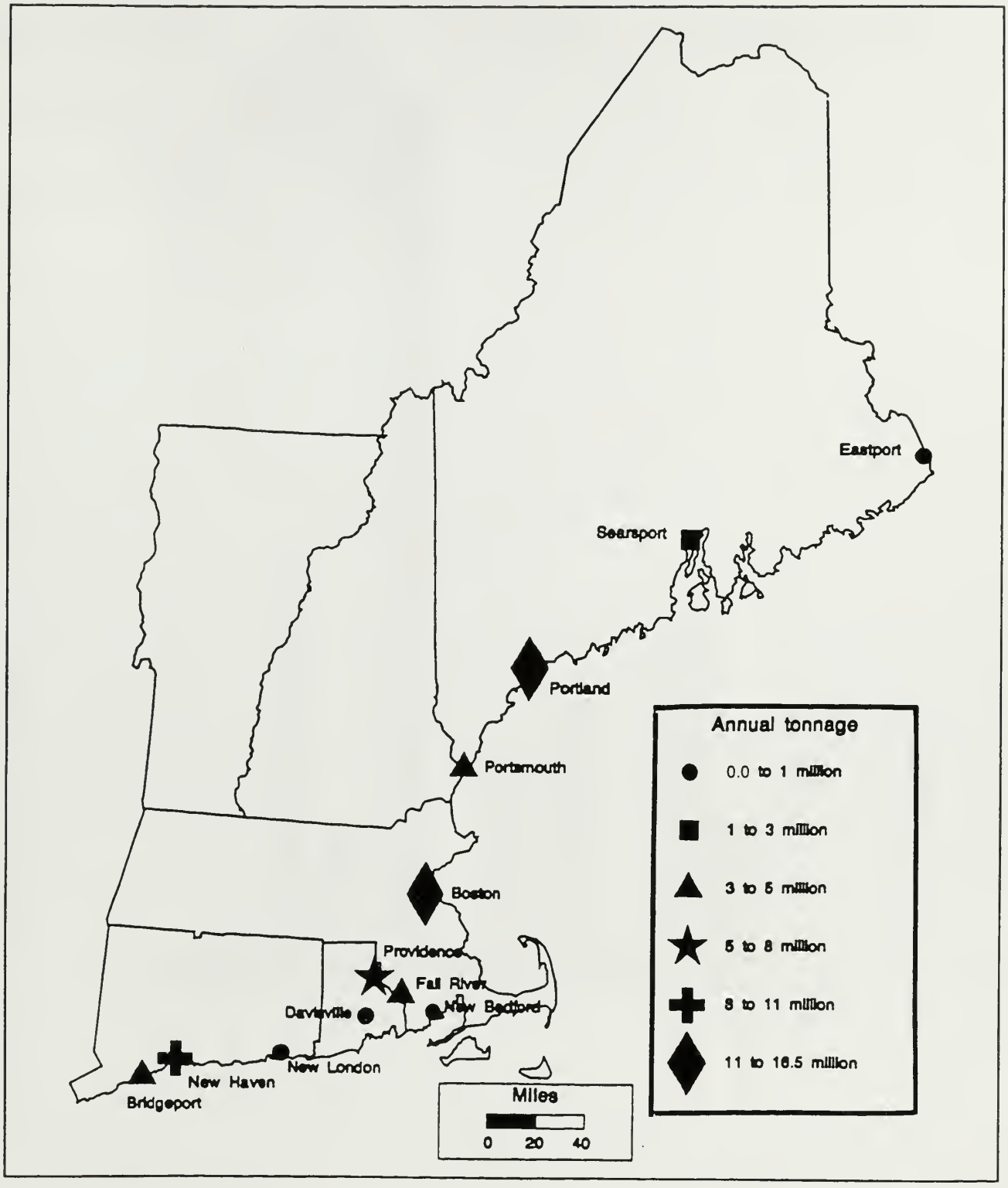


Figure 4.11 New England Imports, 1991 – All Commodities

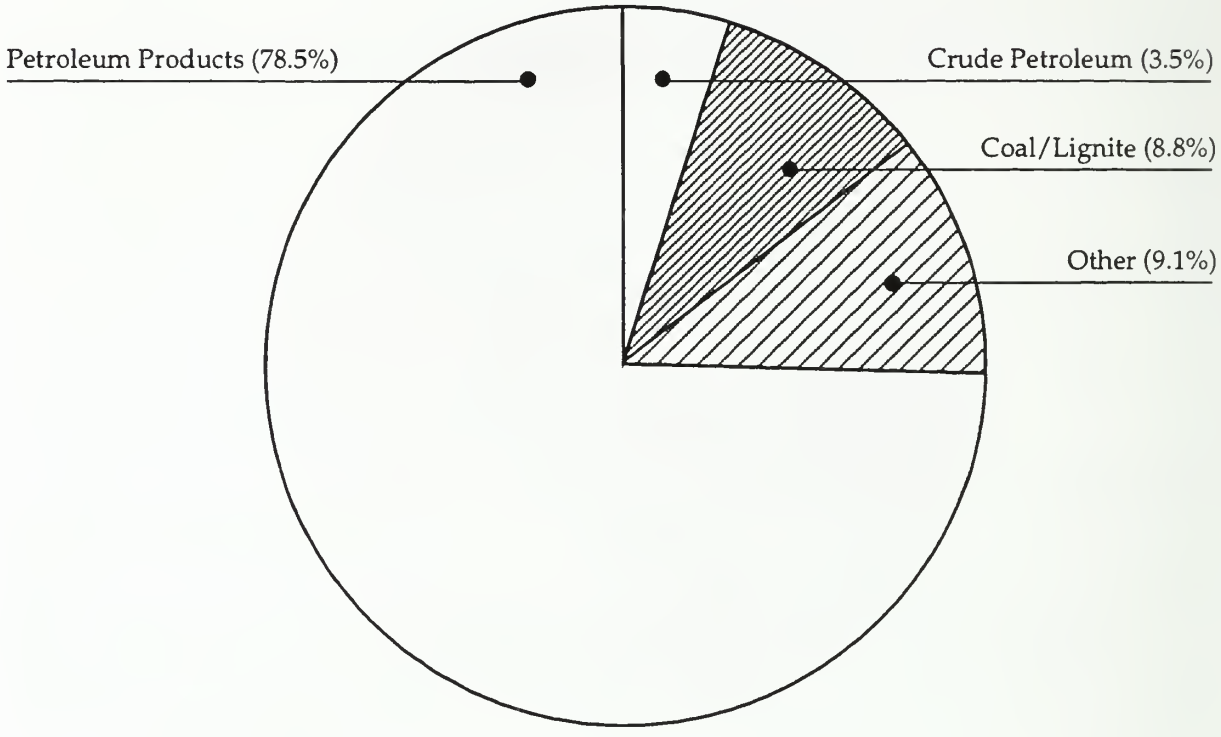
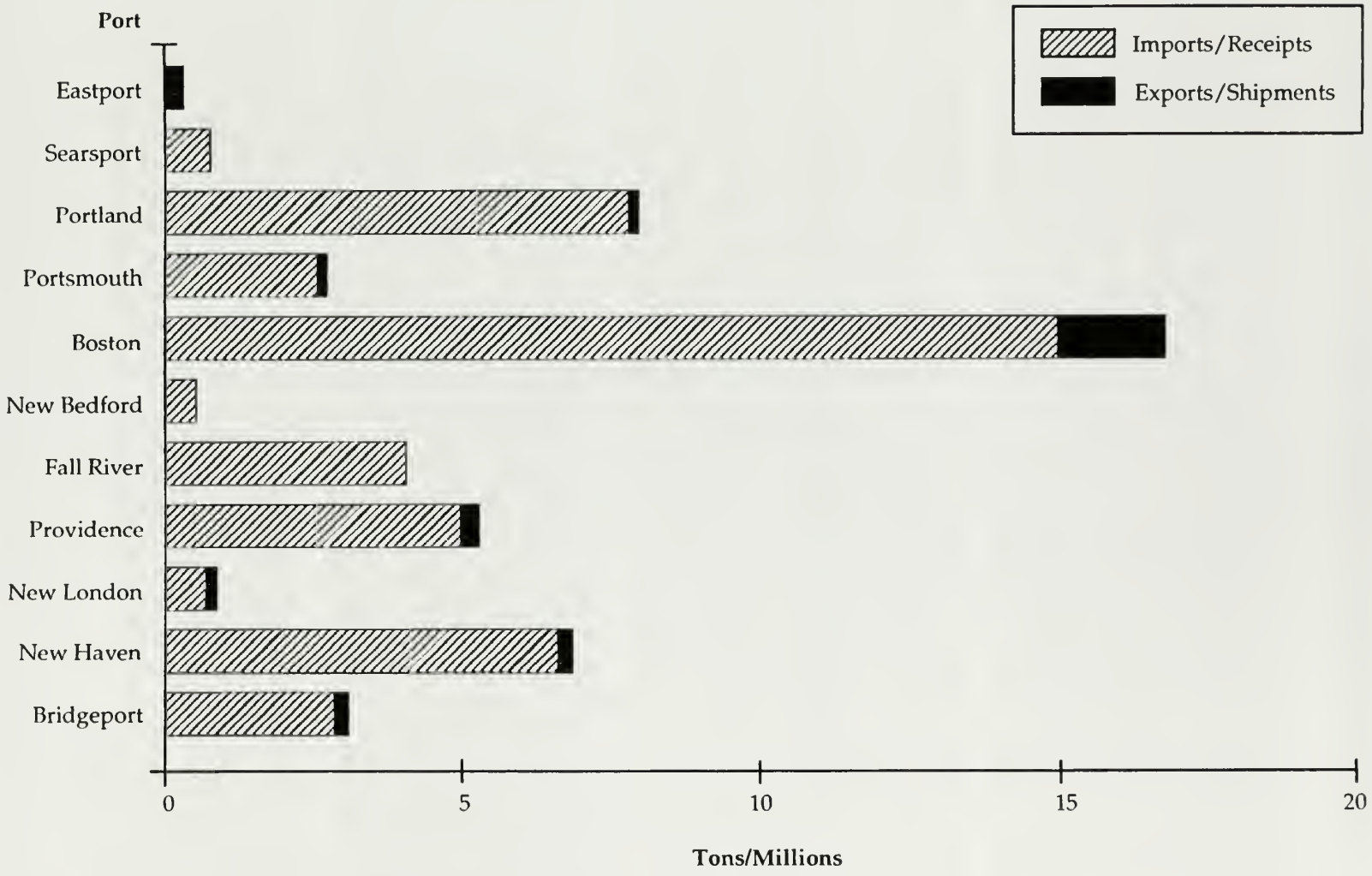


Figure 4.12 New England Port Volumes, 1991 – All Commodities



4.6 Trends in Commuter Behavior

During the last four decades, New England, like the rest of the United States, has become more automobile oriented. As shown in Table 4.1, passenger Vehicle Miles Traveled (VMT) nationally has increased more than 50 percent in three of the last four decades, the only exception being the 1970s when the real price of gasoline significantly increased. As shown in Figure 4.13, the growth in VMT has far exceeded the growth in population, number of drivers, and gross domestic product. On the other hand, as shown in Figure 4.14, there has been an inverse relationship between VMT growth and fuel cost per mile with VMT growth slowing in the 1970s as fuel prices increased and then accelerating again in the 1980s as real fuel prices decreased and vehicles became more fuel efficient.

Table 4.2 shows that the reasons for growth in VMT have changed over time. In the 1950 to 1980 period, automobile empowerment occurred through increases in vehicle ownership, licensed drivers, and corresponding major expansion in highway capacity. In the 1980s, the increase is due far more to declining fuel prices and changing vehicle utilization patterns. The latter reflects changes in underlying demographic patterns including increases in average trip length due to continued suburbanization, greater female participation in the work force, and smaller household size reducing economies of scale in travel. The 1980s also saw high rates of economic growth, particularly in New England, which also contributed to the growth in VMT. Unlike earlier periods of high VMT growth, the 1980s did not witness a major expansion in highway capacity thereby contributing to the accurate perception of significant increases in congestion in rapidly growing urban areas in particular.

These trends are reflected in Table 4.3. Average persons/household declined from 3.15 in 1969 to 2.56 in 1990 while workers per household increased from 1.21 to 1.27. Vehicles per household increased from 1.16 to 1.77; annual household vehicle trips increased from 1,348 to 1,702; and average trip length increased from 6.1 to 7.7 miles. Average vehicle occupancy declined from a range of 1.14 to 1.23 in 1980 to a range of 1.06 to 1.09 in 1990. In New England, single occupant vehicle trips increased as a percentage of all work trips from 60 percent in 1980 to 76 percent in 1990, while carpooling declined from 21 to 11 percent, and transit use declined from 6 to 5 percent. Clearly, these underlying demographic trends have counteracted public policy efforts to reduce automobile dependency.

Among available strategies for altering commuter behavior, the NETI project focused most heavily on the potential of telecommunications. The telecommunications revolution has greatly increased the ability of people to work at home at least part of the time through the use of computers, faxes, modems, and electronic mail systems, and to reduce business travel via teleconferencing. New England, with its high technology industries and high percentage of service workers, would seem to have the potential to make maximum use of these technologies.

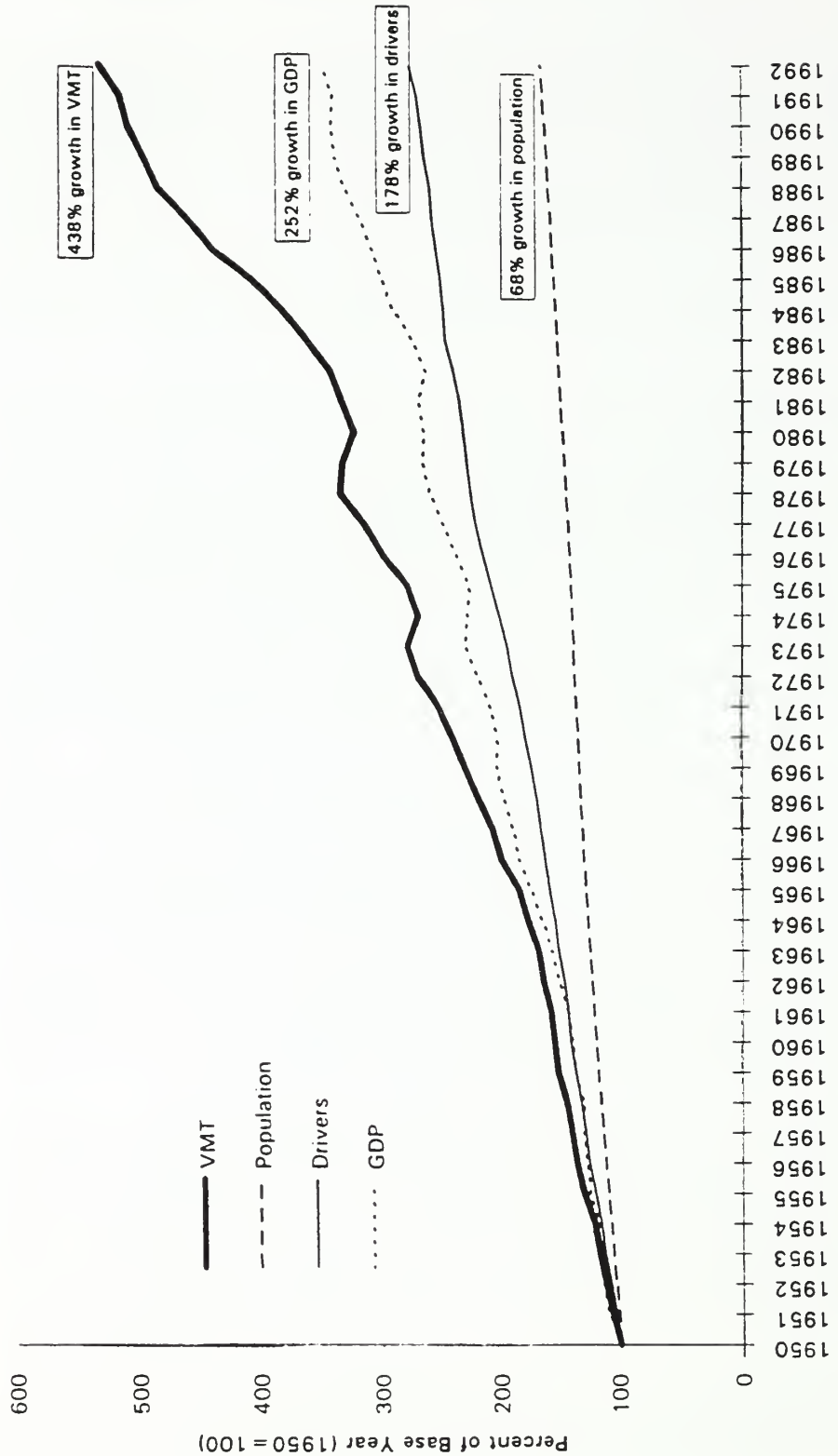
The U.S. Department of Transportation predicts that by the year 2000, almost one-third of paid work will be done at home and that 5 to 10 percent of the labor force will be participating in telecommuting. The Telecommuting Research Institute projects that 10

Table 4.1 Changes in Passenger VMT and its Components

	1950-60	1960-70	1970-80	1980-90	1950-90
Vehicle Miles Traveled (billions)	54%	56%	35%	58%	414%
U.S. Population 16 years and Older (millions)	12%	17%	21%	12%	78%
Percent Licensed to Drive	24%	10%	8%	2%	50%
Vehicles per Licensed Driver	10%	12%	14%	5%	52%
Annual Miles per Vehicle	0%	5%	-9%	31%	26%

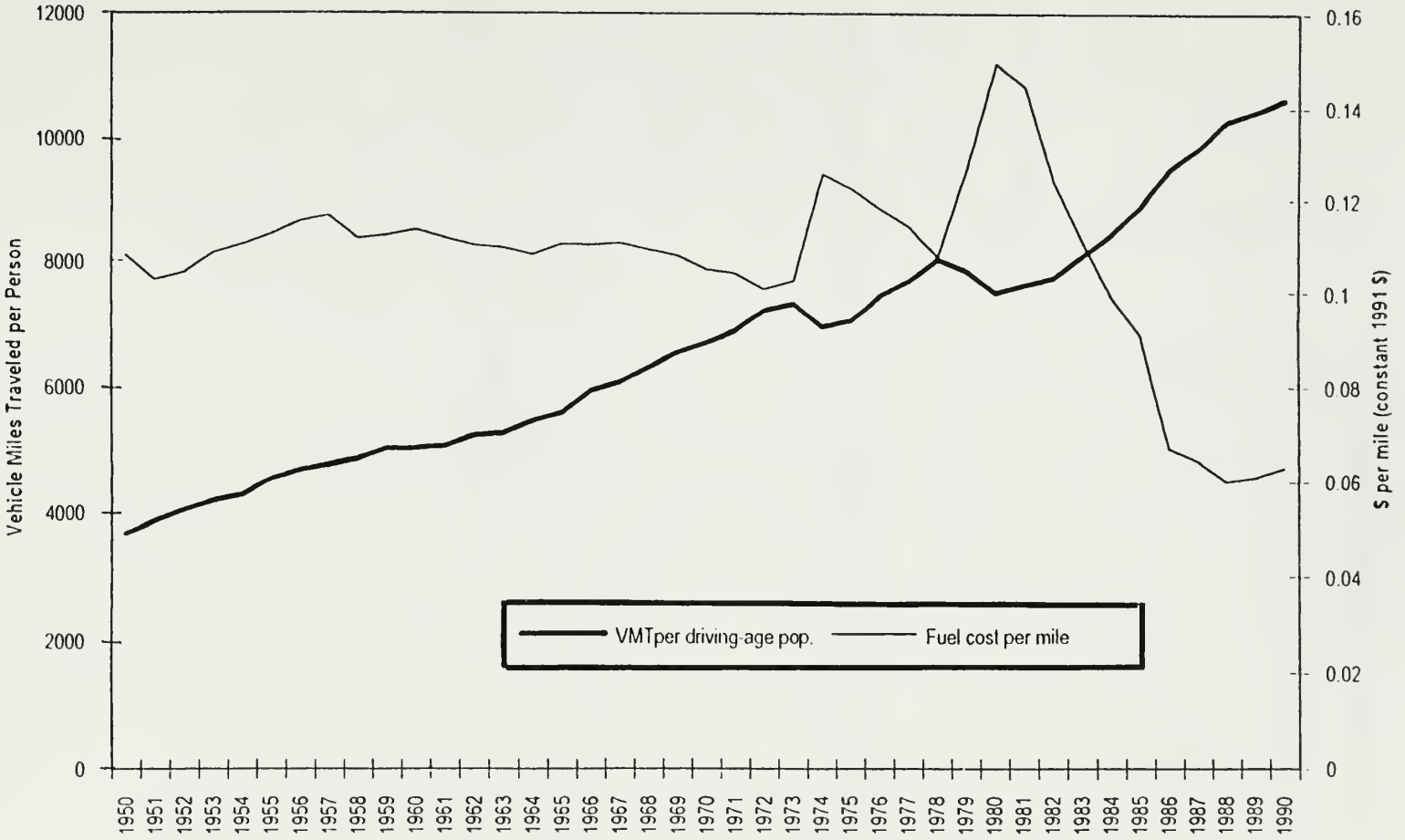
Source: Paul Schimek and Don Pickrell, "Driven to Extremes: The Explainable Growth of Car Use in the 1980's," Volpe National Transportation Systems Center, unpublished draft, August 1994.

Figure 4.13 Growth in VMT, Population, Drivers, and GDP, U.S., 1950-1992



Source: Paul Schimek and Don Pickrell, "Driven to Extremes: The Explainable Growth of Car Use in the 1980's," Volpe National Transportation Systems Center, unpublished draft, August 1994.

Figure 4.14 Automobile Usage and Fuel Cost per Mile



Source: Paul Schimek and Don Pickrell, "Driven to Extremes: The Explainable Growth of Car Use in the 1980's," Volpe National Transportation Systems Center, unpublished draft, August 1994.

Table 4.2 Contribution of Individual Components to Total Passenger VMT Growth

Source of VMT Growth	1950-60	1960-70	1970-80	1980-90
Population Growth	23%	31%	59%	20%
Increased Driver Licensing	45%	17%	21%	4%
Rising Vehicle Ownership	20%	27%	40%	9%
Changing Vehicle Utilization	-1%	10%	-25%	54%
Subtotal	87%	85%	95%	87%

Source: Paul Schimek and Don Pickrell, "Driven to Extremes: The Explainable Growth of Car Use in the 1980's," Volpe National Transportation Systems Center, unpublished draft, August 1994.

Table 4.3 National Travel Statistics

	1969	1983	1990
Average Persons/Household	3.15	2.68	2.56
Workers per Household			
Male	0.77	0.69	0.69
Female	0.44	0.52	0.58
Total	1.21	1.21	1.27
Licensed Drivers/Household	1.65	1.72	1.75
Vehicles/Household	1.16	1.68	1.77
Annual Household Vehicle Trips	1,348	1,486	1,702
Average Trip Length to Work in Miles (All Modes)	NA	6.1	7.7
Purpose of Person Trips			
Earn a Living			21.6%
Family/Personal	NA	NA	41.5%
Civic/Education			11.4%
Social/Recreational			24.8%
Other			0.7%

Source: 1990 National Personal Transportation Survey, 1993, U.S. DOT.

to 20 percent of information sector employees will become telecommuters within the next decade, reducing work trip VMT by between 2.3 percent and 4.5 percent. The 1993 Strategic Assessment Report prepared by the Massachusetts Aeronautics Commission forecast that by 2010 telecommunications could replace up to 7 percent of projected enplanements at Logan International Airport. A 1991 study by Arthur D. Little estimated that a 10 to 20 percent trip substitution by telecommunication would provide $23 billion in benefits of reduced emissions, fuel savings, travel time and roadway maintenance.

By the year 2000, 4.67 million workers are forecast to be employed within the New England finance, insurance, real estate, services and government sectors. If 10 percent of these employees telecommuted an average of two days per week, it would result in a 2 percent reduction in single occupant vehicle trips made in the region.

4.7 Economics

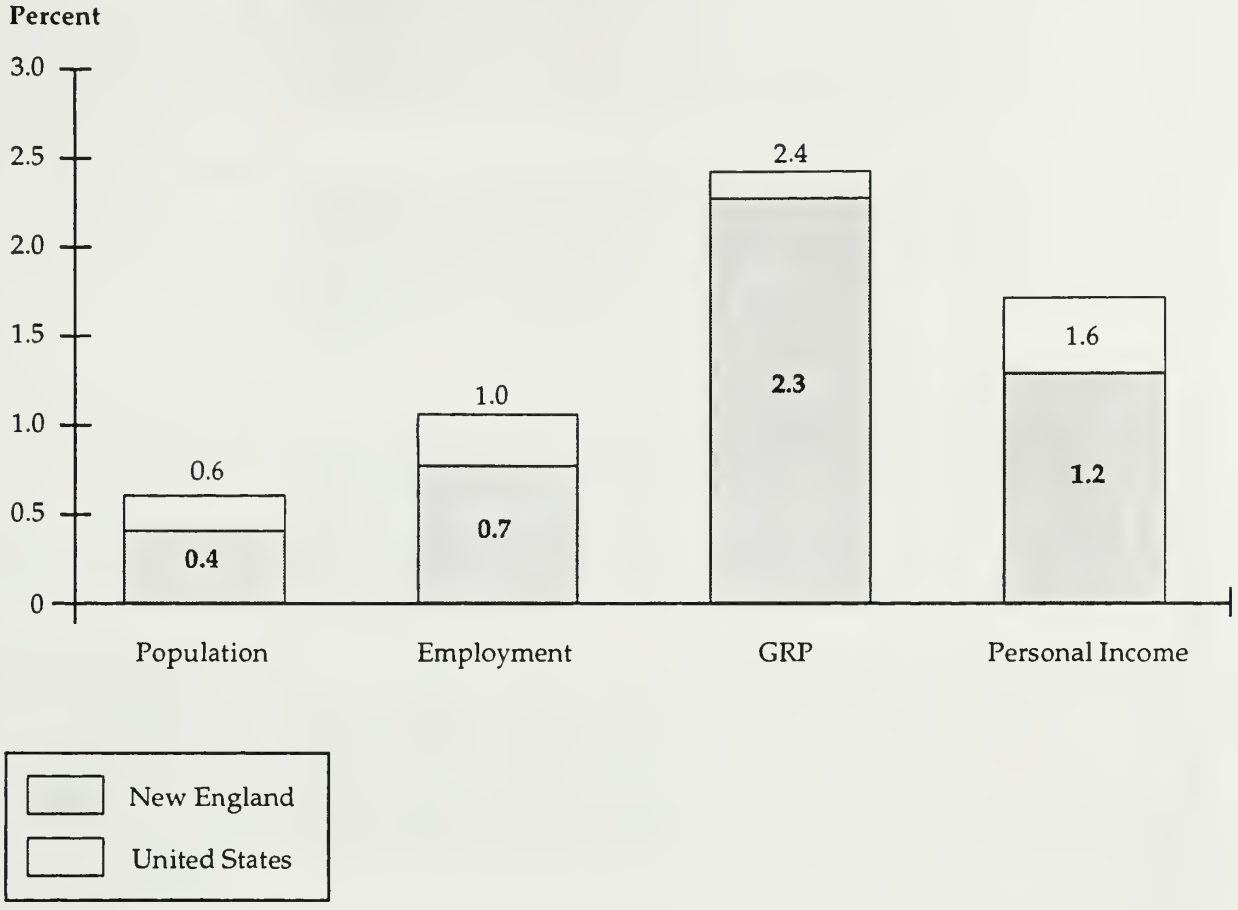
The population of New England is 13.2 million, of which almost half is located in Massachusetts. Annual growth has averaged 0.9 percent since 1910 during which time the region's share of the national population has declined from 7.1 percent to 5.3 percent. As shown in Figure 4.15, population is expected to grow at a rate of 0.4 percent through the year 2020, or about two-thirds the national rate.

The total number of jobs in New England is 8.2 million, of which 50 percent are in the service sector or government, compared to 40 percent in trade and manufacturing. As shown in Figure 4.16, the service sector's share of total employment slightly exceeds the national average and its share is increasing. Average annual employment growth since 1970 was 2.1 percent but forecast growth through 2020 is only 0.7 percent, again about two-thirds the national average. Per capita income is $16,523, 22 percent higher than the national average of $13,595. By 2020, with annual growth rates of 1.2 percent or about three-fourths the national average, the gap will narrow to 13 percent.

New England has several economic advantages including the following:

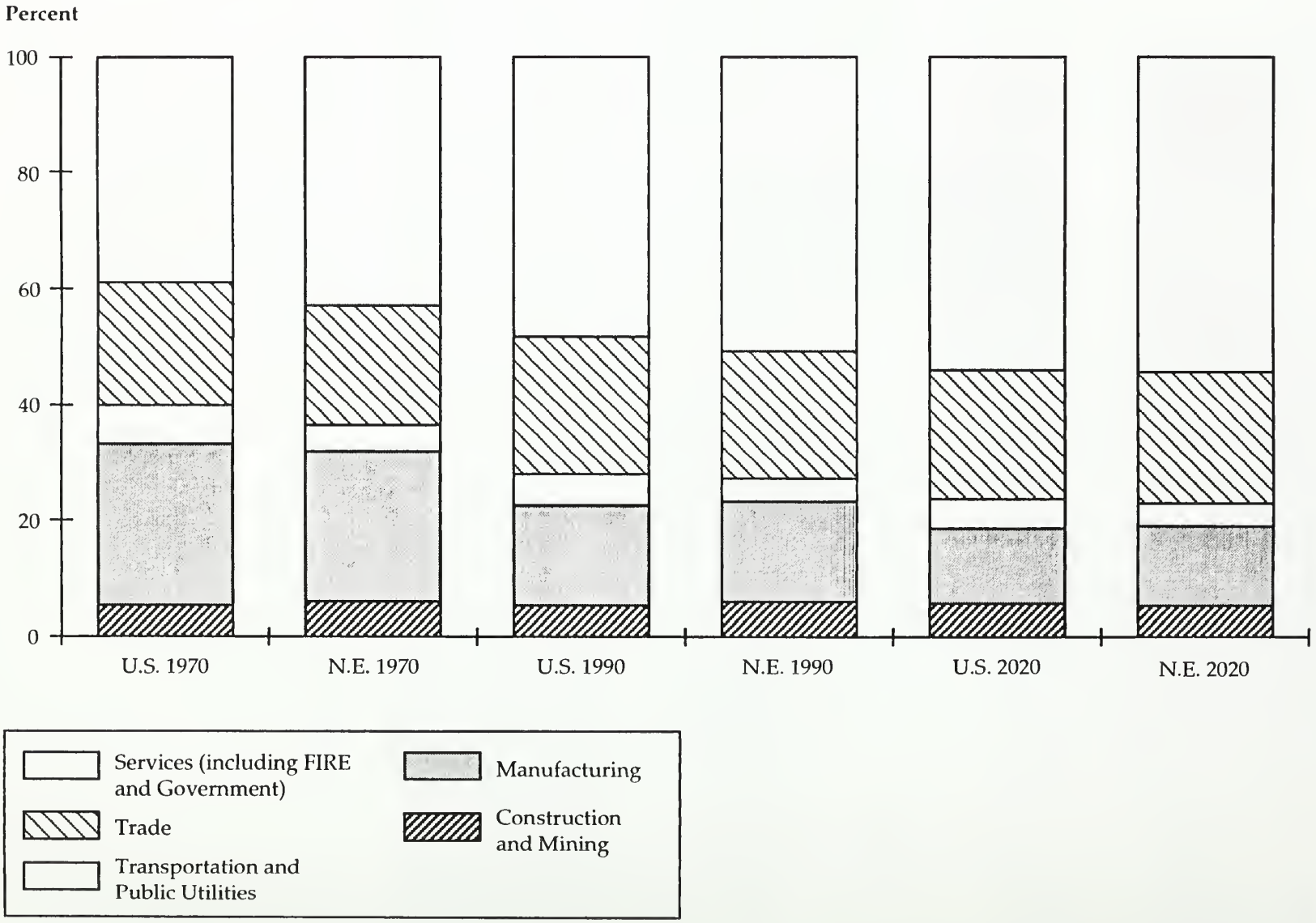
- Strong institutional sectors (universities, hospitals, museums, etc.);
- Vibrant tourism industry;
- Strong financial and business service sectors;
- Skilled and well educated work force; and
- Strong base in knowledge-related industries.

Figure 4.15 Annual Projected Economic Growth Rates, 1990-2020



Source: U.S. Bureau of the Census, Series P-25(1990), U.S. Bureau of Economic Analysis (BEA), Regional Projections to 2040, Cambridge Systematics, Inc.

Figure 4.16 Industry Sector by Percentage of Total Employment – United States and New England, 1970-2020



However, it also faces significant economic challenges, including the following:

- Lingering effects of the recent deep recession;
- Defense cutbacks;
- Maturing computer industry;
- High cost structure (much of it climate related);
- Location in a far corner of the nation with high transportation costs; and
- Poor external connections both nationally and internationally.

Three areas of particular importance to the region's economy, and to transportation investment decision making, are defense, trade, and tourism. As shown in Figure 4.17, defense spending accounts for 8 percent of gross state product in Maine and 4 percent in each of the three southern New England states. Since 1989, defense contract awards in New England have declined by one-third. Forecast levels of defense spending (not accounting for recent discussions of renewed increases in defense spending) could result in 2 to 3 percent reductions in GSP in southern New England, and even more in Maine.

Since 1970, the value of New England exports has increased eight fold and imports ten fold. However, New England's share of national imports/exports has declined slightly. Exports constitute 5 percent of GSP in Rhode Island, Maine, and New Hampshire; 6 to 8 percent in Massachusetts and Connecticut; and 20 percent in Vermont due to Canadian trade. Trade and services are expected to account for most of the growth in employment in New England through 2010. Together, these two sectors will expand by 23 percent, adding more than 1.1 million jobs.

Tourism is one of the major growth sectors of the economy. As shown in Figure 4.18, the number of hotel employees has doubled since 1970 and is forecast to increase by another 50 percent in 15 years. Due to staffing efficiencies, this is generally considered to be an underestimate of the total growth of the tourism sector.

In summary, New England is undergoing an era of major economic restructuring due to the decline in the regional computer industry, defense spending reductions, corporate realignment, and the continuation of the long-term contraction in the metal, plastics and textile industries. This decline has impacted supporting economic sectors such as real estate, finance, government and services. Growth has continued in some high technology sectors, tourism, health, education, and some service sectors. New England wages, cost of living, and real estate prices remain high relative to the national average, but are declining toward the average.

Since NETI began, the nation as a whole has enjoyed a more robust recovery than many had predicted. However, as reported in the Boston Globe on January 27, 1995, New England's recovery has lagged behind. The long-term structural issues described above remain imbedded in the New England economy. Major issues include maintaining

Figure 4.17 Federal Defense Spending, 1992 – Share of GSP per State

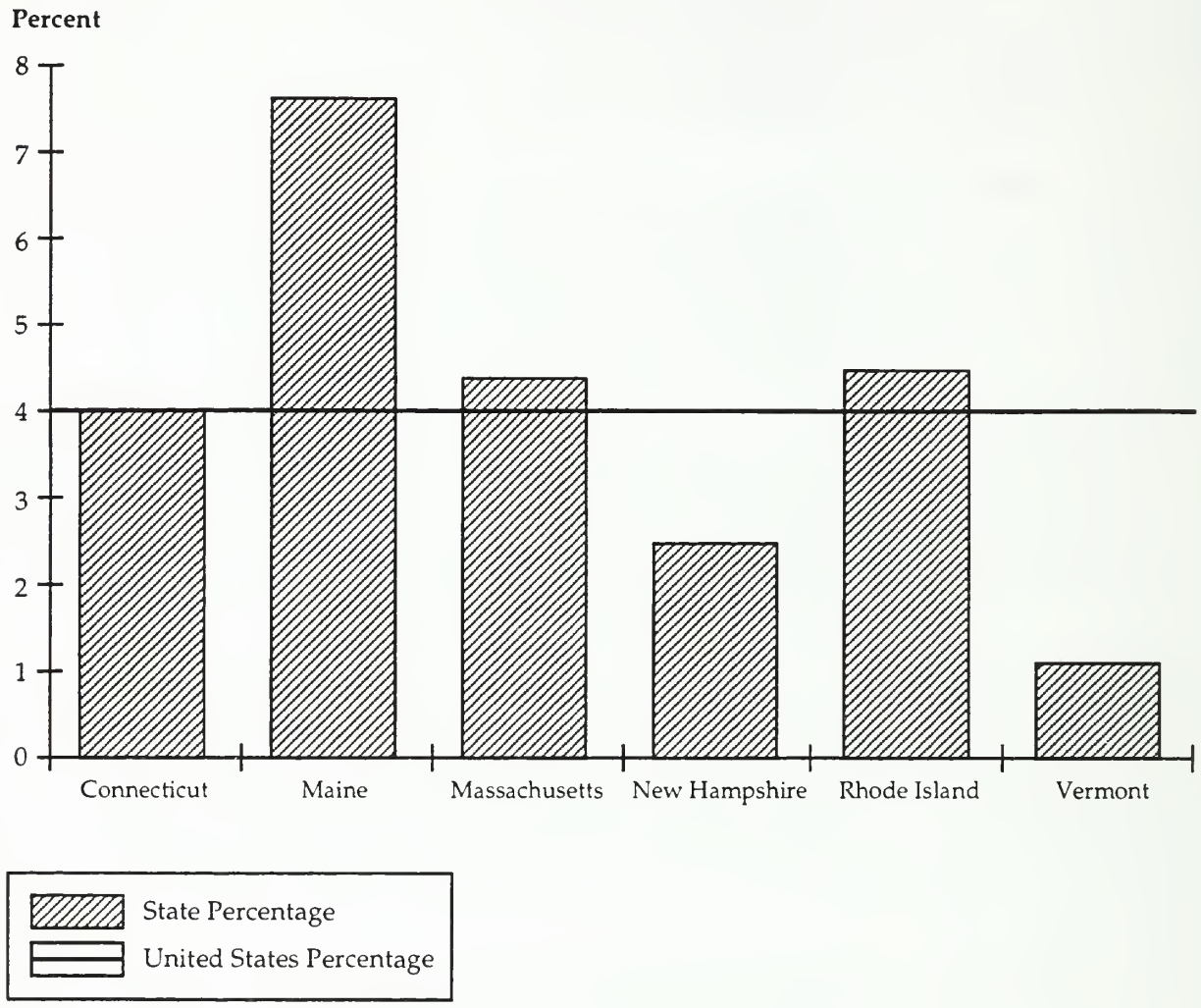
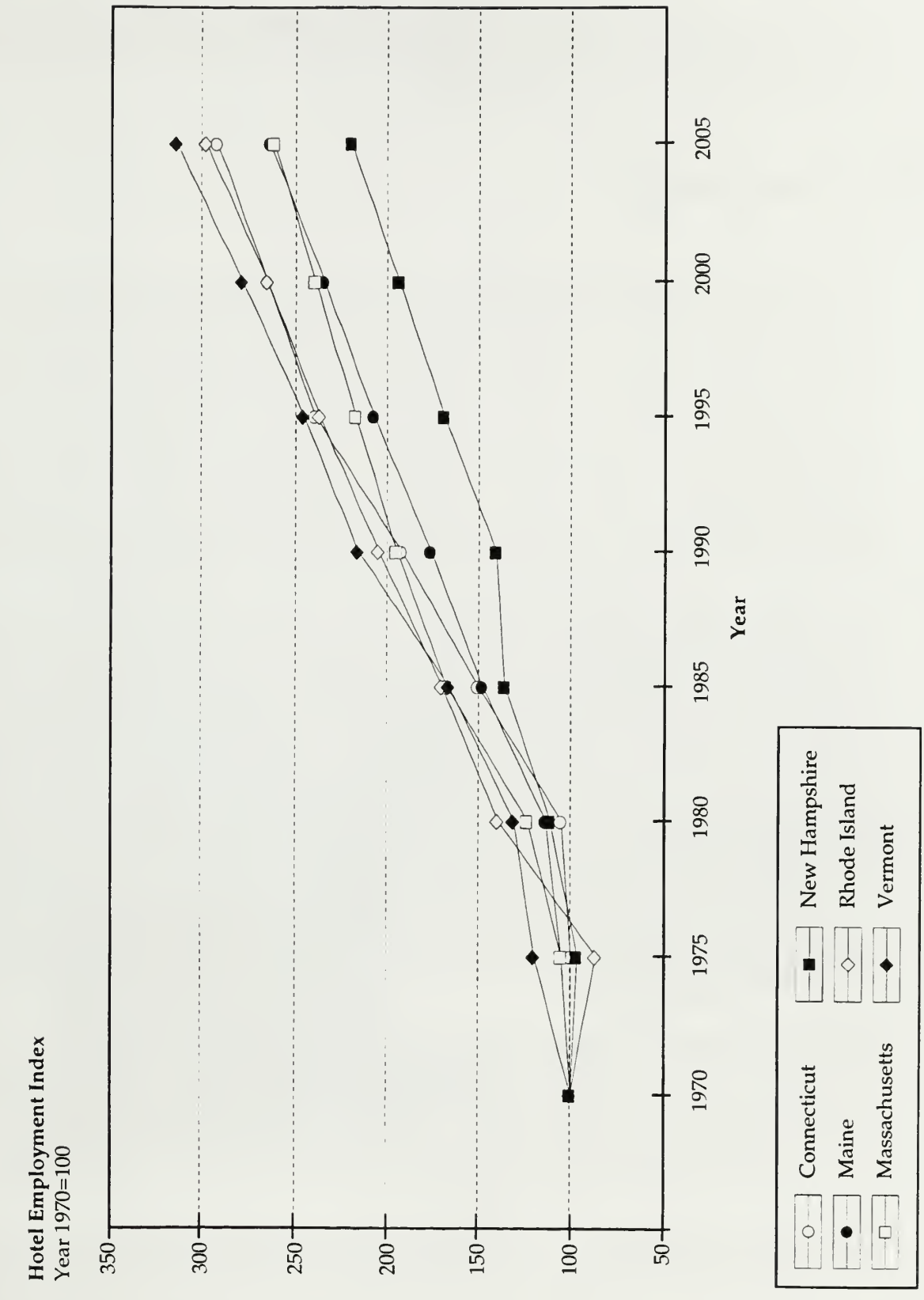


Figure 4.18 Hotel Employment Index, 1970-2005 – As an Indicator of Tourist Activity



continued growth in the service sector while preserving a critical mass of manufacturing jobs; and positioning the region to take full advantage of changes in the international trade climate epitomized by NAFTA and GATT.

4.8 Air Quality

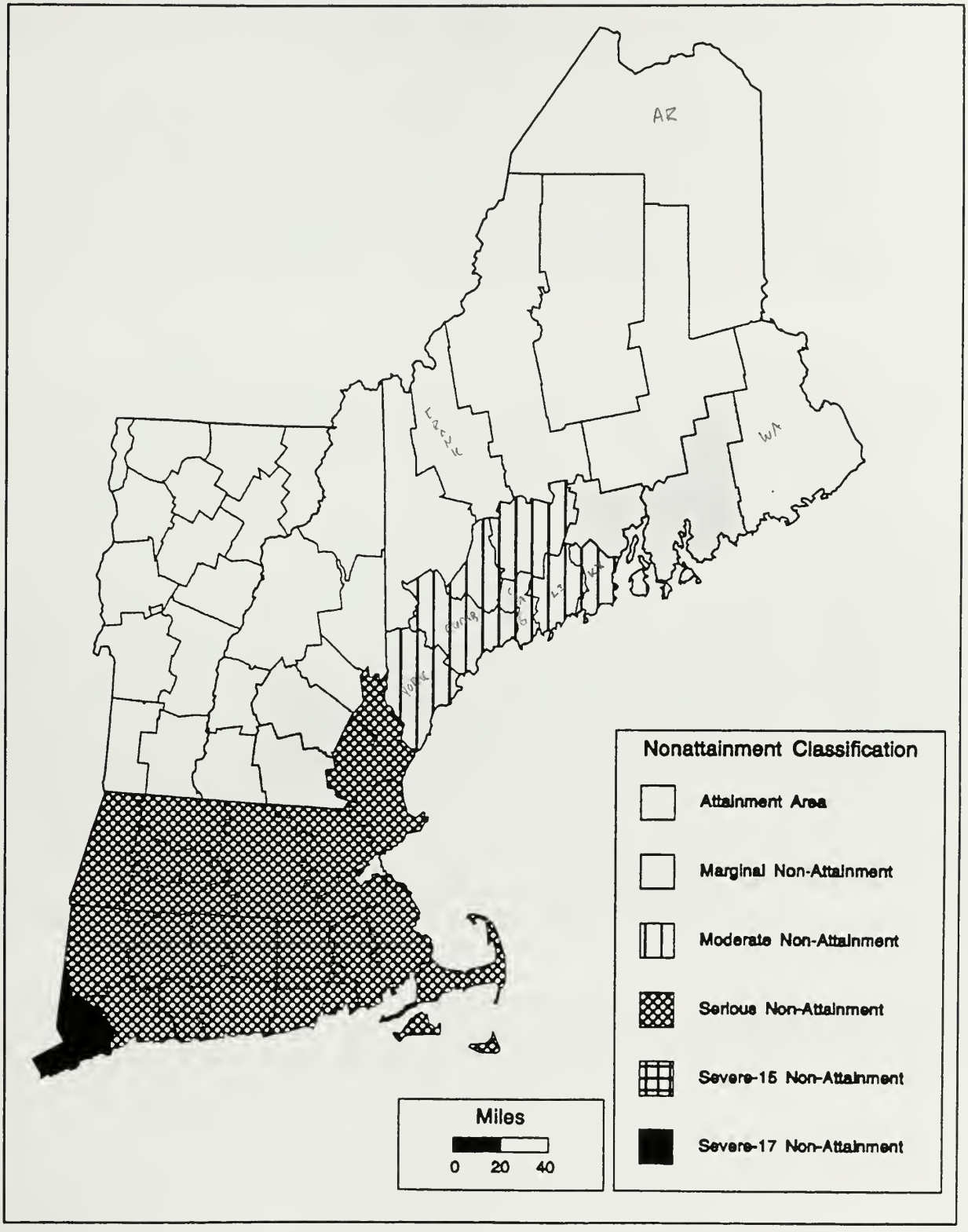
The focus of the NETI study in the area of Air Quality was on ozone as the major pollutant of regional significance. While carbon monoxide pollution is primarily related to local urban conditions, ozone is widely distributed on a regional basis far beyond its sources. Ozone, often referred to as smog, is a measure of the photochemical reaction between volatile organic compounds (VOCs or hydrocarbons) and nitrogen oxides (NOx). Ozone is primarily a summer phenomenon. Approximately 50 percent of total VOC emissions come from mobile sources as opposed to stationary sources such as power plants. Approximately two-thirds of mobile source VOCs come from highway sources. The total mobile source contribution to NOx is approximately 70 percent, with 50 to 70 percent coming from highway sources and diesel trucks in particular. This report only addresses mobile source issues but clearly stationary sources remain an important part of the problem.

The current National Ambient Air Quality Standard (NAAQS) for ozone is a one-hour concentration of 0.12 parts per million (ppm) averaged over a three-year period. There can be no more than one day per calender year with maximum hourly average concentrations above 0.12 ppm for an area to be in attainment of the NAAQS standard for ozone. Ozone non-attainment areas are classified into one of five categories based on the severity of non-attainment: marginal, moderate, serious, severe, and extreme. As shown in Figure 4.19, southwestern Connecticut, as part of the New York City metropolitan area, is the only section of New England in severe non-attainment. The rest of southern New England and the New Hampshire seacoast is in serious non-attainment. Southwest Maine is in moderate non-attainment. The I-93 corridor in southern New Hampshire and the Bar Harbor region of Maine are in marginal non-attainment. While all of Vermont is in attainment, it falls under certain provisions of the Clean Air Act due to its location in the northeast ozone transport region, and the presence of an urbanized area (Burlington/Chittenden County) in excess of 100,000 population.

Nationally, there was a 38 percent decrease in the number of ozone exceedance days during the period 1982-1991. In general, a similar downward pattern is evident in New England (more so in southern than in northern New England) with considerable year-to-year variations due to meteorological conditions. Much of this improvement can be attributed to introduction of less polluting vehicles into the fleet mix, since vehicle miles traveled increased dramatically during the period.

In November 1993, states were required to submit State Implementation Plans (SIPs) for the Clean Air Act demonstrating a 15 percent reduction in hydrocarbon emissions by 1996

Figure 4.19 Ozone Non-Attainment Status by County



Note: Designation of ozone non-attainment areas is not always consistent with county boundaries.

from 1990 baseline conditions. In general, the New England states were able to demonstrate compliance without proposing extraordinary measures. In the November 1994 SIPs, states were required to demonstrate a further three per cent annual reduction between 1996 and 1999. All of a state's transportation plans, programs, and projects must conform with the SIP, accounting for projected growth in VMT. Failure to meet conformity can result in EPA sanctions on the receipt of federal highway funds.

In general, the New England states are relying on enhanced Inspection and Maintenance (I&M) programs, vapor recovery systems at the gas pump, and reformulated fuel programs to achieve compliance. Since the six New England states are within a designated ozone transport region (see below), an enhanced I&M program is required in non-attainment areas and all urban areas in excess of 100,000 population (such as Burlington). Programs are underway in all states but significant controversies have developed in some such as Maine and Vermont, and other states currently are re-thinking their I&M programs as a result of recently announced changes in EPA policy.

Reformulated fuel is required in severe and extreme non-attainment areas including southwestern Connecticut. However, all of the New England states have chosen to "opt-in" to the program. Stage II vapor recovery systems are required in all moderate and above non-attainment areas and have been adopted in all of New England except Maine. Transportation Control Measures (TCMs) designed to reduce travel demand were adopted in the 1993 SIPs only in southwestern Connecticut where an Employee Commute Option program is a required element due to its severe status, although other states have incorporated TCMs into various aspects of their transportation plans.

All of the states have been aided in demonstrating conformity with the SIP requirements by the introduction in 1994 model year vehicles of federal Tier I emission rate standards. The central issue in the development of longer-term air quality maintenance strategies for the region has become the further evolution of "clean vehicle" technology. Under the Clean Air Act Amendments, the 12 northeast states plus the District of Columbia were designated as an "ozone transport region." The Ozone Transport Commission (OTC) was established and provides a mechanism for the states to petition EPA to impose a mandatory control strategy. In 1994, the states petitioned for the imposition of a Low Emitting Vehicle (LEV) program in the region. Vehicles would have to meet California emissions standards either through fleet-wide improvements in emissions rate and/or through the introduction of some Zero Emitting Vehicles (ZEVs) powered by such fuels as electric batteries or natural gas. While a ZEV element is not a requirement of the LEV petition, some states such as Massachusetts and New York have individually adopted ZEV provisions.

On December 19, 1994, EPA approved the OTC petition while proposing to continue negotiations among the OTC states and the auto manufacturers which would prefer to develop a 49-state vehicle which is less polluting than the federal Tier I vehicles. This 49-state vehicle would be sold throughout the country, not just within the Northeast states.

4.9 Energy

In the past 20 years, or since the onset of the first Energy Crisis in 1973, imported oil as a percentage of all U.S. oil consumption has increased from 37 to 45 percent; and oil as a percentage of all U.S. energy consumption has increased from 53 to 59 percent. Transportation accounts for 35 percent of total U.S. energy consumption (unchanged over the past 30 years) and 32 percent of carbon dioxide emissions. There is, however, considerable state to state variation with transportation representing 43 percent of total energy consumption in Vermont compared to 35 percent in Maine. Transportation today consumes 140 percent of domestic oil production, compared to 90 percent in 1973 at the start of the first energy crisis. In other words, transportation alone consumes more oil than is produced in the United States. Of this amount, the percent consumed by autos has declined from 56 to 42 percent since 1970, with the difference being made up primarily by trucks and utility vehicles.

The 1992 National Energy Policy Act (NEPAct) requires federal, state, and fuel provider vehicle fleets in larger urbanized areas to include alternatively fueled vehicles by 1996. This requirement could be extended to municipal and private fleets by 1999. It is applicable only within the southern tier of New England states plus portions of southeastern New Hampshire.

An important issue in the development of alternately fueled vehicles is the widespread provision of a maintenance and refueling infrastructure. A number of public and private sector initiatives are underway to provide technical assistance and to implement demonstration projects. These include the Department of Energy's (DOE) Clean Cities Program; the I-95 Clean Corridors Program initiated by the State of New Jersey; the Northeast Alternative Vehicle Consortium (NAVC); the Federal Transit Administration's (FTA) "Station Car" program providing for the lease of electric cars at transit park and ride facilities; electric vehicle demonstration projects sponsored by the states of Massachusetts and Vermont; and the Coalition of Northeast Governors' alternatively fueled vehicle infrastructure study.

4.10 Land Use, Growth and Quality of Life

There has long been a symbiotic relationship between land use decisions and transportation investment. Low density development typical of suburban sprawl and the growth of single occupant vehicle (SOV) trips usually go hand-in-hand. The resulting spread of suburbia further from central cities, the concentration of employment locations along circumferential highways, and the growth of two-wage earner households all combine to increase total vehicle miles traveled (VMT). The economic impact on strained municipal finances of converting vacant land to productive uses tends to encourage this pattern. Results can include negative impacts on air quality conformity, water resources impacted by new

development and the infrastructure needed to support it, and the traditional New England quality of life focused on vibrant urban cores and small town centers.

The relatively slow growth environment of New England limits the potential for rapidly altering patterns which have evolved over decades. Vermont and Maine have taken the most dramatic steps to address these issues. In Vermont, land use and transportation planning are linked through Acts 200 and 250, the state's growth management and chief development review laws respectively. Act 200 mandates that regional and local plans contain a transportation element, and Act 250 requires conformity of projects with these regional and local plans. The state's Regional Planning Commissions are responsible for both transportation and land use planning. Recent discussions in the state have focused on ways to streamline the regulatory processes which have been established. In Maine, a recent state referendum established the Maine Sensible Transportation Act which provides for regionally-based citizen input into project planning, and a requirement to consider alternatives to facilities serving single passenger automobiles. The act is in its early stages of implementation.

Other states are trying to incorporate land use considerations into their traditional transportation planning processes. Connecticut's five-year growth plan (1992-1997) favors concentrating growth in already heavily developed corridors focused mainly on the major highway network. Rhode Island's 1989 Land Use Plan favors concentrating growth as urban redevelopment, near existing developed areas, or in planned new communities where adequate infrastructure is available. Massachusetts planning is focused at the regional level. The Boston Region Metropolitan Area Planning Council's (MAPC) 1993 "Metroplan 2000" calls for the designation of Concentrated Development Centers (CDCs) which would be earmarked for infrastructure investment. New Hampshire has initiated a statewide transportation modeling and land use project.

5.0 Alternative Scenarios

5.0 Alternative Scenarios

The purpose of this section is to describe three Alternative Scenarios for New England's transportation future. These scenarios served as the basis for the major analyses of the NETI Project and lead to the identification of specific actions for inclusion in the Plan of Cooperation. The scenarios are intended to provide broad, policy-level structure to the transportation future, rather than focusing on specific projects. To the extent that specific projects are mentioned at all, they are intended only to serve as examples. Readers should refer to the Inventory and Forecasting Reports for more extensive listings of specific projects.

The scenarios are summarized by policy in Figure 5.1 and by mode in Figure 5.2.

5.1 Scenario 1 – Current Policies

The changes brought about by ISTEA in greater funding flexibility and increased emphasis on intermodalism reflect the status quo in transportation planning today. Also of great relevance to transportation planning are the more stringent clean air mandates of the Clean Air Act Amendments (CAAA). These two acts constitute the key components of transportation decision making today. This scenario presumes a continuation of these policies and the approaches presently being undertaken by the states to meet the requirements of these acts. Given that ISTEA and CAAA are still relatively new laws with evolving regulations and responses, the definition of "current transportation policies" is not quite as clear as in the recent past. Best guesses were made regarding the likelihood of implementing certain actions.

Current transportation policies place a high premium on maintaining individual mobility. Despite the evolution of policy under ISTEA and CAAA, there are strong incentives for auto ownership and single-occupant vehicle travel. For families who can afford multiple auto ownership and who do not have to drive in highly congested areas, it is a highly efficient system offering maximum individual freedom and choice. The systems' weaknesses are the lack of viable alternatives for those who cannot take full advantage of an auto-oriented system (the poor, young, elderly, handicapped, tourists, etc.); the increasing congestion levels which it has spawned; and the resulting externalities such as air and water pollution, energy consumption and changing land use patterns.

The relative emphasis given to each major mode will continue to follow current policies. While ISTEA will give some impetus to intermodal planning and the development of

Figure 5.1 Scenarios by Policies

Policies	Scenarios		
	1. Current Policies	2. Moderate Change	3. Major Change
Driving Force	• Market • Existing government policies	• Market • Voluntary cooperation • Incentives/disincentives	• Government catalyzing private sector investment • Government mandates • Public/private social compact
Institutional Arrangements	• Existing cooperative efforts	• New intra-New England cooperative efforts • Improved cooperation with New York, Canada, and private shippers/carriers	• New England Intermodal Alliance • Regulatory standardization at all levels of government • Removal of unnecessary institutional barriers
Passenger Transportation	• Increasing dominance of auto and air systems with increasing congestion • Individually-based transportation	• More balanced intermodal system • More creative and cooperative use of existing auto/air facilities • More emphasis on public transportation • Improved public transportation amenities and information	• Preservation of existing system • Major shift to HSGT and public transportation
Freight Transportation	• Continued dominance of trucking	• Increasing importance of rail for selected long-haul markets • Targeted port strategy • Enhanced intermodal connectivity • Specialized treatment of containers • Improved information and interlining facilitation	• Major shift to HSGT and intermodal coordination • Major new New York and Canadian gateways
Growth Management Planning	• Locally based • Varied levels of transportation coordination • Market driven within current government policies	• Demonstration-based approach targeted to specific new developments • Growth centers	• Sub-regional approach consistent with state and regional transportation plans and processes

Figure 5.1 Scenarios by Policies (continued)

Policies	Scenarios		
	1. Current Policies	2. Moderate Change	3. Major Change
Travel Demand Management (TDM)	• Voluntary TDM and state sponsored ridesharing programs	• Aggressive public agency internal programs • Negotiated approach tied to new or modified development and infrastructure improvements • Tax credits	• Mandates for all but small employers • Routinely incorporated in operation of existing activity centers • Incentive-based insurance and tax policies • Urban parking constraints
Air Quality	• Vehicle emissions control • Voluntary TDM • OTC LEV program	• More aggressive voluntary employer programs and growth management plans tied to specific infrastructure improvements • Emissions control on heavy-duty and off-road vehicles	• Mandatory travel and growth management programs • Increased use of public transportation services
Alternative Fuels	• Current CAAA and NEPact large fleet mandates	• Greater commercial fleet participation	• Widespread penetration of personal and commercial markets
Telecommuting/ Teleconferencing	• Technology-driven growth and small government demonstration projects	• Large public agency demonstration projects • Greater private sector participation tied to specific infrastructure improvements	• Mandates for all but small employers • Major growth industry
ITS	• Modest ITS implementation in commercial sector	• Significant ITS implementation where appropriate	• Full commercial and passenger ITS implementation where appropriate

Figure 5.2 Scenarios by Mode

Policies	Scenarios		
	1. Current Policies	2. Moderate Change	3. Major Change
Highways	• Inadequate system preservation funding • Limited capacity expansion approved on individual basis	• Improved system preservation funding • Capacity expansion based on defined criteria consistent with other public policies	• Full system preservation funding • Capacity expansion primarily for intermodal connections and high occupancy vehicle facilities
Trucking	• Modest ITS implementation and regulatory standardization • Increasing dominance of freight markets	• Full ITS and regulatory standardization • Some shift of long-haul markets to rail • Improved intermodal coordination • Enhanced clean/alternative fuel programs • Improved technology	• Major investment shifts to multi-modal strategies
Intercity Bus	• Continued rural abandonment or transfer to public operation • Some urban growth due to HOV facilities • Conversion to rail feeder services • Selective expansion due to public investment	• Enhancement of rural services • More extensive urban HOV facilities • Greater conversion to rail feeder services in appropriate markets	• Fully integrated intermodal system
Passenger Rail	• Northeast corridor improvements • Boston to Portland completed • Limited commuter rail expansion • Limited tourist expansions	• Additional new intercity and commuter services • Some recreational expansion and improved schedule coordination • Enhanced New England connectivity	• Major commitment to HSGT • Intermodal recreational system
Freight Rail	• Limited double-stack improvements • Increase in waste and hazardous material hauling	• More double-stack improvements • Increased share of long-haul market and intermodal coordination	• Major shift to intermodal system

Figure 5.2 Scenarios by Mode (continued)

Policies	Scenarios		
	1. Current Policies	2. Moderate Change	3. Major Change
Airports	• Continued delays and increasing congestion at Logan • Conversion to smaller planes on some feeder services	• Regional system with intermediate services shifted to second-tier airports • Fare equity across the system	• Intermediate services shifted to HSGT
Ports	• Individual port planning and investment • Increasing external competition	• Regional Study	• Coordinated regional port planning and investment

intermodal facilities, planning will still occur largely along modal lines and funding levels will reflect current trends including the underfunding of ISTEA itself.

The funding levels necessary to preserve the existing highway physical plant in good working order will continue to lag behind inflation, while still providing for limited capacity expansion projects. The latter will go ahead in a relatively uncoordinated fashion based on funding availability, environmental approvals and the traditional political process. Capital funding of public transit will experience modest increases consistent with the greater flexibility to shift funding between transit and highways provided by ISTEA. The trend toward decreasing federal operating subsidies in medium to large urban areas will continue. Abandonment of rural intercity bus service will continue, although in some cases service will be taken over by regional transit authorities following the pattern in urban areas. Urban service in locations such as Boston and Hartford will be enhanced by High Occupancy Vehicle (HOV) facilities as currently planned. Intercity service will transition in some cases from the provision of intermediate and long-haul services to feeder services for enhanced rail systems.

Passenger rail expansion and improvement will be limited to those projects currently in the advanced Environmental Impact Statement (EIS) stage or beyond. The Northeast Corridor Improvement Program, including electrification to Boston and high speed trainsets will be completed, as will the extension of rail service from Boston to Portland, Maine. Commuter rail projects could include primarily the most advanced projects in the Boston area – the three branches of the Old Colony line, and the Newburyport, Worcester, and Taunton extensions. In addition, expanded service could be provided on the Hartford to New Haven route in Connecticut, on MBTA service between Boston and Providence with an extension to Green Airport, and in Burlington, Vermont. Current seasonal recreational train service such as New York to Cape Cod and Portland to Sunday River would continue, but only a few new services such as the Vermont tourist loop would be added. Other projects will be studied with perhaps preliminary implementation steps undertaken.

Freight rail service will continue generally as it now operates, with limited double-stack clearances to terminal facilities presently operating in Worcester and to the west of Worcester for container traffic; west of Framingham for tri-level auto carriers; and added to the Central Vermont Railroad in Vermont. Some expansion of waste and hazardous material hauling should be expected consistent with current trends. Trucks will remain the largest freight hauling mode for both short and long distances. Existing efforts by state governments to facilitate truck/rail intermodal coordination will continue. Based on current trends, some continued improvement in regional regulatory coordination can be expected as well as initial implementation of Intelligent Transportation Systems (ITS) such as Automated Vehicle Identification (AVI) based toll collection and credential filings and verification.

Logan Airport will continue to function as the service hub for all types of New England air service. Fare disparities between Logan and the second tier of regional airports may continue to limit the growth potential of these facilities and their ability to relieve air-side congestion at Logan. Procedural and infrastructure improvements sponsored by the FAA and Massport will be used to mitigate these problems to the extent possible. Some regional airports will experience abandonments and downgrading of services from jet to turboprop.

The potential for new capacity made available by continued abandonment of military facilities will be addressed on a case-by-case, or at best a state-by-state basis.

On the ground side, access to Logan will be improved by the completion of the Third Harbor Tunnel, expansion of suburban express bus services, and establishment of South Station as a remote terminal. No direct rail access will be provided. Parking, as a matter of public policy, will become increasingly constrained which, combined with the HOV facilities included as part of the Third Harbor Tunnel approach roads, will lead to some modal shifting. Access to all other New England airports will remain overwhelmingly auto based.

Financing of airports will be increasingly based on Passenger Facility Charges (PFCs). It is anticipated that the Airport Improvement Program (AIP) and Essential Air Service Program (EAS) will continue although at decreasing real funding levels. Funding availability for general aviation airports will continue to be problematic since most PFC revenue goes to commercial facilities where it is collected.

New England ports will continue to serve primarily as importation points for fuel products. While some ports may thrive due to niche markets such as Eastport (exportation of forestry products) and New Bedford (importation of fresh fruit), others will decline. Some of the Connecticut ports, Portsmouth, and Providence appear to be in particular jeopardy. The lack of regional cooperation may make it difficult to compete with larger mid-Atlantic facilities for the major container and auto markets which are displaying strong tendencies for consolidation at a few key ports. This approach is also likely to result in the less than optimal allocation of scarce public resources on the enhancement of too many facilities which prove not to be economically viable. Consistent with current trends, minimal dredging for maintenance or improved operational capability will occur.

As the above discussion indicates, air carriers, autos and trucks will remain the dominant transportation modes in New England, with the potential for ever increasing levels of congestion at certain facilities. Responses to this situation will be largely individualistic and market driven, with potentially negative consequences for New England's economic growth rate which is already forecast to be about two-thirds that of the nation as a whole. Responses could include service abandonments by both air and motor carriers; peak spreading; compromises on safety of operation; and diversion to other modes or locations.

Commuting trends are likely to continue the pattern outlined for the last 20 years, with continued increases in vehicle ownership, miles traveled, and both home to work and off-peak auto travel. While the relative rate of increase may slow for awhile, the maturation of the baby boom echo generation later in the forecasting period, increasing immigration levels, and levels of female participation in the work force may provide another upward boost. Percentage growth rates in indicators of auto travel are likely to be slower than in the previous 20-year period. The share of trips made on transit and ridesharing may continue to decline as origin/destination patterns and work hours become more diffuse. One possible counterveiling trend is the aging of the baby boom generation. In the normal course of events, older people would be expected to travel less. However, one should expect that this generation will try to maintain the mobility levels which they have come to take for granted in their lifetimes, placing increasing strain on the safety of automobile

travel as their skills diminish. This phenomenon has already been experienced in Florida. Telecommuting and teleconferencing will continue to grow due to market forces expanding the availability of electronic equipment. Government involvement will be limited to small demonstration projects as is presently the case.

New England should expect most economic growth to occur in the service sector with continued stagnation or decline in the total number of manufacturing jobs. Canadian trade can be expected to provide an economic boost to Vermont and to a lesser extent Maine. The GATT and NAFTA agreements can be expected to provide further boosts to export-related activities, as well as the possible reorientation of the Southeast Asian trade routes toward the Atlantic coast. However, the transportation constraints noted above may prevent New England from taking full advantage of these opportunities.

Institutionally, the six states of the region will continue to advance the regional agenda which is currently active including the NETI process itself, ITS implementation particularly in the commercial vehicle sector, and CAAA initiatives such as the OTC Low Emitting Vehicle (LEV) standard. Investment decisions will continue to be made on an individual state basis. Financing of transportation investment will remain heavily dependent on fuel taxes, user fees, and state and federal subsidies which do not particularly reflect the costs and benefits of the actions relative to other choices. The private sector role in the provision of transportation services will continue to increase slowly consistent with current trends.

The emphasis of mobile source CAAA attainment strategies, as defined in the current State Implementation Plans (SIPs) for Air Quality, will continue to be on reducing motor vehicle emission rates, accomplished through fuel strategies, such as Stage II vapor recovery and reformulated gasoline, and vehicle emission control technology programs such as enhanced inspection and maintenance. Voluntary employer-based Transportation Demand Management (TDM) programs, and government sponsored ridesharing, flextime, and transit pass programs will continue at current levels except where stronger actions are mandated such as in southwestern Connecticut. Clean and alternative fuel programs will focus on large government and commercial fleets in designated areas as required by the CAAA and the National Energy Policy Act, supported by the various electric vehicle and other demonstration programs being carried out under the auspices of the Northeast Alternative Vehicle Consortium.

Land use and growth management planning will remain primarily a local responsibility responsive to a variety of market and institutional forces. New England transportation will continue to be highly dependent on imported sources of petroleum with no emergency contingency plans or long-range strategic plans in place to respond to supply disruptions.

5.2 Scenario 2 – Moderate Change

This scenario is characterized by increasing funding levels for certain types of projects, experimentation with different funding mechanisms, greater intermodal connectivity,

greater intra-regional cooperation, and more aggressive demand and growth management programs. It is intended to mitigate the problems which may result from the status quo: the ability of the states to meet environmental mandates, slow economic growth, increasing congestion among a limited number of key facilities and modes, and the inefficient use of resources on destructive intra-regional competition. It aims to achieve these goals through a combination of government programs, voluntary actions, and a series of incentives and disincentives. The New England states would enter into a number of voluntary agreements among themselves, and seek to negotiate as a region with federal transportation agencies, private shippers and carriers, New York state, and Canadian provinces. This alternative would seek to preserve the advantages of the existing transportation system, while providing viable alternatives for those who cannot take full advantage of the system, and developing strategies to reverse the trend toward ever increasing congestion levels in certain modes and facilities.

The existing highway system would be preserved in reasonably good working order. Capacity expansion projects would be advanced on the basis of systematic criteria, including the following: safety, severe congestion, inclusion of HOV or other intermodal elements, lack of feasible alternative solutions, regional environmental and economic costs and benefits, and linkage with demand and growth management strategies. Additional funding for transit operating expenses would also be provided. Rural and urban intercity bus service would be enhanced and combined with HOV facilities where appropriate, and altered to provide feeder service to new rail facilities where required.

The New England states would voluntarily agree on a regional intermodal freight container facility strategy focused on a range of options for which a small number of key hubs will be selected from among Boston, Worcester, Ft. Devens, Davisville, Pease, Portland, and others. Consensus on the appropriate role and investment strategy for these and other facilities would be voluntarily achieved through a regional study. This study would lead to the implementation of a regional investment strategy and corresponding marketing strategy since the ultimate success of the program will depend on convincing the private shipping companies and industries to use the facilities which are developed. These private interests should be an integral part of the study process. The New England states should also seek to engage U.S. DOT in a dialogue on how to make New England a key node in national and international freight transportation. The implications of technological developments which will likely result in larger, more fuel-efficient rail and truck equipment and containers will also be considered. It would be anticipated that among the possible results of the study would be programs for the improvement of double-stack service to existing terminals served by the Providence and Worcester Railroad in Worcester and the Massachusetts Central Railroad in Palmer, via their connections with Conrail; an agreed upon strategy for extending double-stack capability east of Worcester; double-stack capability between Davisville and the P&W mainline in Rhode Island; and other selected double-stack opportunities. This strategy would create a critical mass necessary for economically efficient double-stack rail service in New England.

By defining a discrete number of critical ports with double-stack rail connections and incorporating environmental considerations into the analysis and the environmental community into the process, it would be anticipated that environmental approval could be obtained for dredging activities essential to maintain and expand these facilities. Costs and

revenues associated with implementing the strategies would be shared in an equitable manner among the states in order to provide incentives for states to forego individual development strategies.

The trucking industry would be converted to full ITS operation where appropriate; most transactions (except inspections) would be handled electronically; Automated Traveler Information Systems (ATIS) would provide real-time information assisting truckers in planning routes to avoid severe congestion improving both their operational performance and reducing the impacts of motor carriers on urban congestion and air quality. Electronic toll collection with time period-based pricing will be implemented in selected corridors to support congestion pricing strategies. Economic regulations and fees would be fully standardized within New England and made more consistent with the rest of the nation. More information on comparative freight shipping opportunities would be provided to industry; state facilitation would be provided in reducing regulatory barriers to rail shipments, enhancing coordination among railroad owners and operators, and developing interlining agreements.

The combination of a regional approach to freight management and improvements in the trucking regulatory climate may enable the New England states to maximize the efficiency of freight delivery to support economic vitality while minimizing some of the externalities which freight transportation generates. A shift of some long-haul carload freight traffic from motor carriers to rail service may be achievable, while enhancing the operation of smaller trucks performing final delivery functions in urban areas. A true intermodal port/rail/truck system could be established which would benefit New England-based trucking interests, which would obtain final shipment business from the railroads that is presently handled by long-haul truckers operating from outside the region.

In return for the improvements in truck operations achieved by ITS programs, enhanced cooperation among the states on fees and regulations, and intermodal rail connections, the trucking industry should be expected to participate in a more aggressive voluntary clean and alternative fuels program than currently planned under the CAAA and the National Energy Policy Act. The New England states will support this effort by means of a regional alternative fuel infrastructure strategy.

Studies or implementation of passenger rail services would be expanded beyond the projects included in Scenario 1 to include others which are in earlier planning stages today. These might include enhanced Amtrak Inland Route service; establishment of direct Boston to Montreal service via the presently abandoned Concord to White River Junction line; enhanced connectivity between southern and northern New England rail service by means of the North Station-South Station connector in Boston or other regionally acceptable strategies; and expansion of Amtrak service to points north of Portland. Some of these services may also provide opportunities for enhanced freight service prior to the establishment of passenger service. In addition to service expansion, the quality of intercity service will be improved by means of greater frequencies, passenger amenities, and vast improvements in the delivery of intermodal travel information. Commuter rail service examples include Boston to southern New Hampshire, Boston to New Bedford/Fall River, and Old Saybrook to Westerly to Providence. Additional seasonal recreational trains would be encouraged along with better schedule coordination with local transit networks.

As in the freight sector, voluntary efforts would be made to develop a regional passenger air strategy. The goal of this strategy would be to enhance the competitive position of a series of regional airports such as Portland, Pease, Manchester, T.F. Green (Providence), Worcester, and Bradley (Hartford). The objective would be to provide low-cost jet service, effective schedule coordination and connecting flights, and effective ground access for intermediate-distance trips to relieve both air and ground-side congestion at Logan. The efficiency and effectiveness of international and long-haul domestic service would be enhanced at Logan and possibly one other regional facility. In furtherance of these objectives, Massport would take measures to relieve Logan congestion such as possible construction of a new commuter/general aviation runway. This strategy would also seek to develop a comprehensive regional approach to general aviation services and the reuse of abandoned military air facilities.

The New England states would seek to negotiate with the airline industry to determine how this regional approach could be implemented and what infrastructure and regulatory steps would be required of the states. Opportunities would be sought to intervene at the federal level in order to encourage the development of low-cost regional carriers.

A stronger approach to travel demand and growth management planning would be developed in an effort to mitigate the trends described in Scenario 1. This would be primarily aimed at new development and new infrastructure projects. As described earlier in the highway discussion, approval of specific projects (potentially in any mode) or corridor plans could be made contingent on the implementation of a variety of demand management, land use, or congestion pricing strategies. Examples of this approach already exist in the Maine Route 1 Corridor Study; the Pease Joint Development study; the Vermont Bypass Road Program; and frequent state efforts to link highway access controls with defined levels of service. Linkages could include HOV facilities; Transportation Demand Management (TDM) programs; employer ridesharing, parking and telecommuting/work hour programs; peak period congestion pricing balanced across all modes of access; and multi-use, higher density, cluster developments around the facility. Employers would need to achieve defined objectives in minimizing the growth in SOV trips and VMT and increasing the use of alternative fuels, and could propose their own programs for achieving these objectives. In response, government would make investments in improved local roadway access; improved transit services in terms of frequency, vehicle quality, and routes served; and corridor-wide improvements in highway or transit facilities.

In addition to facility or corridor specific actions, government agencies (particularly at the state level) would take the lead in implementing travel demand management strategies among their employees.

State growth policies would explicitly address the land use/transportation connection in negotiating with communities, regions and employers on infrastructure improvements. Given that funding will always be constrained and choices required, states will favor those infrastructure projects which achieve defined public policy objectives in enhancing mobility and access, economic vitality, and environmental protection. A policy of this type can only be implemented on a New England region-wide basis in order to prevent a continuation of the current tendency among businesses to play one state off against another for the best

deal regardless of overriding public policy considerations. State tax credits would be offered to businesses which participate in TDM, alternative fuels, and inventory management programs. The latter would be intended to reduce the pressure for "just-in-time" delivery. All state agencies would target investment to communities which address growth management issues in a way which helps to achieve transportation objectives.

In regard to community planning, policies which minimize the demand for movement by grouping a variety of functions in close proximity (growth centers)would be favored for transportation infrastructure investment. Such policies would also tend to preserve the traditional New England quality of life focused on coherent, multi-functional city and town centers as opposed to extensive strip mall and suburban sprawl development, and to preserve surrounding open space.

This approach to land use planning does not envision a return to a pre-suburban dense urban environment, but rather the development of multi-functional communities in urban, rural and suburban settings in which distances among functions are relatively short, yet appropriate separation is maintained between conflicting functions. As such, it would impact the demand for and length of non-work as well as work trips.

As discussed above, a more aggressive clean and alternative fuels program would be implemented on a voluntary basis in coordination with the motor carrier industry, and the New England states would coordinate the development of a regional infrastructure to support one or more alternative fuel options. A common regional approach to implementation of a Low Emission Vehicle (LEV) standard would be achieved throughout New England. CAAA attainment strategies would go beyond the current focus on vehicle emission control strategies to include the types of growth and travel demand management strategies discussed above and targeted toward high growth areas.

5.3 Scenario 3 – Major Change

Scenario 3 aims to achieve the same basic goals as Scenario 2 – enhanced mobility and access, economic growth, and environmental protection – but seeks to do so by using government as a catalyst for the generation of private sector investment in new transportation systems, new institutional arrangements, and direct government intervention and mandates where necessary – rather than through the series of voluntary cooperative arrangements and incentives and disincentives described in Scenario 2. It seeks to create the basis for a new, more public transportation oriented system while still preserving the existing system. Some of the specific actions for achieving these goals, such as better coordination of regional freight and air passenger facilities, are the same as in Scenario 2 so they will not be repeated in detail here. The difference is in the means to achieve them.

The main substantive changes are shifting funding priorities from further expansion or other enhancement of the predominant modes today which experience significant

congestion levels – basically single-occupant auto and air travel – to the development of a more public transportation-oriented society as opposed to an individually-based transportation system which forms the core of Scenarios 1 and 2. The second major shift would be the development of strong travel demand and growth management policies and mandates at the state and regional levels throughout New England, as opposed to the voluntary incentive-based system described in Scenario 2.

The existing highway and air sectors would be maintained in good working order, but there would be minimal capacity expansion particularly in the provision of additional single-occupant auto capacity or intermediate-distance air service. There would be full implementation of highway ITS systems (and new air traffic control technologies discussed in other scenarios) to ensure maximum utilization of existing facilities. A fully operational Automated Traveler Information System (ATIS) would be broadly and routinely available for all forms of travel in New England providing real-time data on travel conditions and alternatives. Highway projects which serve as intermodal connectors would be advanced with major HOV components where appropriate.

High Speed Ground Transportation Services (HSGT), on new or modified alignments, would be expected to handle the bulk of the growth in long-distance auto trips and intermediate-distance air trips. These might include conventional high speed rail, Maglev, rubber-tire technologies, or other new and emerging technologies and operating strategies. In addition, a major increase in teleconferencing would be expected to dampen demand increases for air travel. Major new investments would be made in urban commuter rail and bus services including HOV and park and ride facilities. A true recreational transportation system would be established incorporating rail services with new, more extensive local transit distributional networks. Greater emphasis would be placed on passenger ferry services to seacoast recreational destinations. New England rail freight service access to national and international markets would be strengthened via major new Canadian and cross-Hudson gateways.

Government would create the pre-conditions for investment in these systems. This includes assemblage of rights-of-way; R&D in new technologies; marketing support; creation of ancillary investment opportunities via real estate development and other strategies; supportive tax and environmental regulations; coordination across governmental boundaries; removal of unnecessary institutional barriers; matching funds; incentives/disincentives for the public to use the new systems; and demonstration projects. However, the bulk of investment should come from the private sector. The HSGT system must possess qualities similar to those which make the automobile attractive – reliability, frequency, speed, comfort, personal safety, and high technology. For the system to succeed, ultimately people must use it through free choice not coercion.

HSGT systems are most effective in corridors with high travel demand between a limited number of densely developed points. Other locations, particularly in rural areas, may remain dependent on auto travel and effective local and regional public transportation and investment in these systems should increase appropriately.

Clearly, while the state of California could contemplate making such a major shift in emphasis on its own, it is beyond the power of any single New England state to do so. This

could only be accomplished as a regional strategy which also included close coordination with the state of New York. Transportation policy cannot change in isolation from other public policies and be successful. Increasing congestion on the highway and air side would likely result in significant diversion of trips and cargo to the HSGT system. However, many factors including price and convenience go into modal choices, and society is presently not organized to respond effectively to a more public transportation-based system. This change would surely be as significant as the changes brought about by the Interstate Highway Program and expansion of air services and facilities which occurred in the 1950s and caused the original shift from a public transportation-based society. The societal changes which resulted were generally little understood or planned for, and many of the problems discussed in these scenarios result from that sequence of events.

Key elements in achieving this shift would include generation of private sector investment; a greater state and regional role in growth management planning; transportation pricing strategies; full implementation of new technologies; and new institutional structures.

The focus of land use and growth management planning would need to shift from the local level to the same levels which dominate transportation planning today, the states and the sub-state regional level of Metropolitan Planning Organizations (MPOs) in urban areas and Regional Planning Agencies (RPAs) in rural areas. Such authority is relatively common among regional or county-level agencies in other parts of the country. Vermont Acts 200 and 250 and the Maine Sensible Transportation Act represent the earliest steps to date in this direction in New England.[1] Proposed legislation in Massachusetts and Vermont would take these concepts a step further by designating growth centers.

The plans developed by regional agencies would need to be consistent with state transportation plans and growth management plans which in turn would need to be consistent with an agreed-upon New England-wide shift in priorities. State-level guidance and coordination of growth policies would provide a framework within which regional and local land use planning would occur. In particular, there would be an emphasis on mixed-use cluster style development at key intermodal transportation nodes in order to minimize the number and length of single-occupant vehicle trips.

A major land bank program would be established to forestall development in protected areas. Widespread regional emissions trading involving the use of mobile sources would be used as an additional strategy in achieving air quality attainment mandates. Strategies aimed at reducing vehicle emissions, energy consumption, and congestion such as differential auto insurance rates based on such factors as VMT or vehicle emissions controls, and parking constraints in urban areas, would be adopted. There would be widespread market penetration of alternatively fueled vehicles for personal as well as commercial use, with accompanying infrastructure development.

1/ The Maine Sensible Transportation Act provides regionally-based citizen input into project planning and requires that alternatives to facilities serving single-occupant auto travel be considered. Vermont Act 250 requires that projects which alter 10 or more acres meet 10 performance criteria, and conform to local and regional plans. Vermont Act 200 requires projects to conform with regional and local comprehensive plans.

Medium and large employers and employment centers would be required to implement aggressive travel demand management strategies, telecommuting opportunities, and clean/alternative fuel programs. Telecommuting and teleconferencing would become a New England-wide growth industry.

The implementation of a more public transportation-oriented society may enable New England to reduce its long-term strategic dependence on petroleum imports.

The difficulties inherent in implementing a dramatic change of this nature in one sector of the country are fairly obvious. On the one hand, a stronger centralized governmental authority is needed at least in some cases. Alternatively, a public/private sector social compact is required to prevent a potentially major outflow of business activity to other parts of the country until the benefits of the change can be demonstrated.

As sovereign entities, each New England state must retain authority over most planning activities within its borders. However, precedence exists for multi-state, intermodal organizations with specific well-defined responsibilities. Probably the most well-known example is the Port Authority of New York and New Jersey. To address the lack of regional coordination in freight planning and development, the creation of a New England Regional Intermodal Alliance is proposed. The Alliance will serve as a regional planning and development forum for the six states, facility operators, and private carriers. It will take on specific functions as desired by the states such as the development of new financing mechanisms, negotiation with other states and transregional interests, and the promotion of facility improvements such as double-stack rail access to ports and port dredging. A regional alliance could be the most direct way to achieve true regional planning; a targeted investment strategy; regional trade-offs; negotiating strength with private carriers and shippers; international economic competitiveness; and cost/benefit sharing among the states.

6.0 Analysis

6.0 Analysis

Based on the data presented in this section, the Policy Committee recommends that the scenarios shown below be endorsed as the preferred strategies for achieving the respective goals of the NETI study. The analysis which follows is organized by the major goals of the study – to enhance: 1) mobility and access; 2) economic vitality; and 3) environmental protection.

Goal	Preferred Scenario
Mobility	
Passenger	2
Freight	3
Environmental Protection	
Air Quality[1]	1
Other (i.e., Energy, Land Use)	2
Economic Vitality	
Passenger	2
Freight	3

[1] It should be noted that the Scenario 2 measures that are endorsed for congestion management and energy purposes also would contribute air quality benefits.

6.1 Mobility and Access

Mobility refers to the ease of movement of people and goods across the region. Poor mobility can be caused by congestion or lack of access.

The beginning point in analyzing the impact of the scenarios on mobility in the region was to estimate Vehicle Miles Traveled (VMT) on a regional basis. VMT represents the distance travelled by all roadway vehicles – cars, trucks, buses, and special purpose vehicles. Daily

VMT in New England in 1990 was approximately 308 million miles. This is the base, or starting point of the analysis.

In the State Implementation Plans (SIPs) for Air Quality submitted in November 1993, the states were required to base VMT growth estimates on actual recent VMT growth or on a statewide forecasting model. Since no state has yet completed development of a model (several are currently under development), all of the states continued to use the historic growth rates for the near-term projections. Based on the SIP data, the New England-wide annual growth rate for VMT is projected to be just slightly over two percent.

There is substantial basis for assuming that the rate of VMT growth will slow. The reasons for the rapid growth of VMT in the 1980s were discussed in Section 4.6. While there are always going to be many unknown factors about the future, most of the factors which have driven VMT growth in the past are unlikely to do so to the same extent in the future. Population growth, even accounting for increased immigration rates, is unlikely to reach the levels of the baby boom years. Even during the prosperous 1980s, economic growth rates were much lower than during the boom years of the 1950s and 1960s. The political and financial basis for major road-building projects no longer exists. Women have attained a high degree of labor force participation. Eighty-seven (87) percent of eligible drivers are already licensed. Corporate Average Fuel Efficiency (CAFE) standards have been achieved and at present there is insufficient political support for strengthening the standards. Further declines in fuel prices seem unlikely.

As shown in Figure 6.1, if the VMT growth rates in New England of the recent past (roughly two percent annually) were extended to the year 2020, VMT would increase from the current 308 million to 554 million, or 80 percent. Even under a current policies scenario, this forecast strains credibility. It would result in either horrific levels of congestion or a major highway construction program to accommodate demand. The political support does not exist under current policies for such a program.

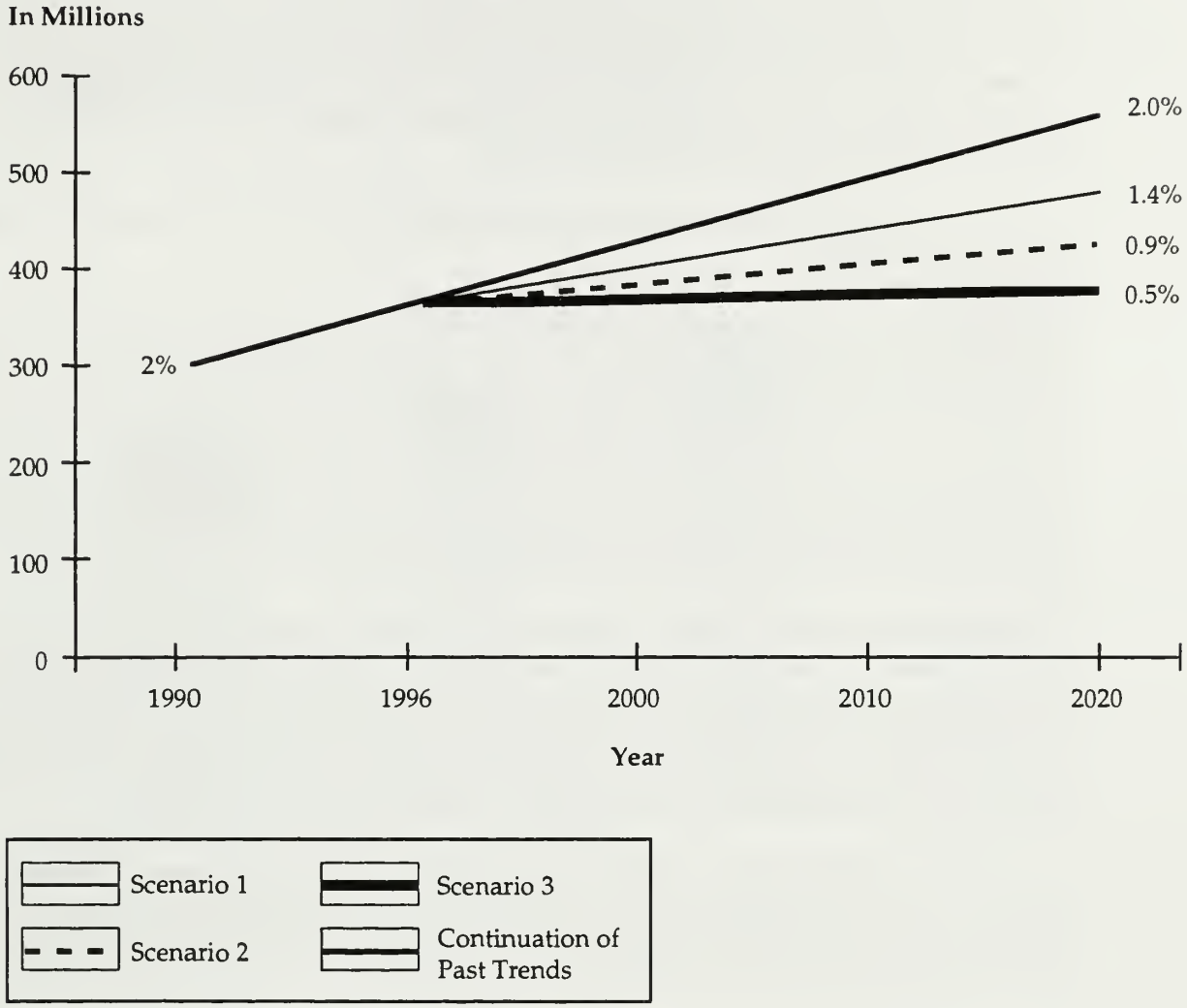
As shown previously in Figure 4.15, New England is projected to experience a 0.46 percent annual rate of population growth through the year 2010, compared to a rate of 0.7 percent experienced in the 1980s, or 66 percent of the 1980s rate.[1] As mentioned earlier, the combined annual VMT growth rate for New England based on the SIP submissions (1980s data) is two percent. Since the projected rate of population growth for the future is only 66 percent of the 1980s rate, 66 percent of the VMT growth rate or 1.42 percent was assumed for Scenario 1. This results in a VMT estimate of 486 million in 2020, which is still 58 percent greater than 1990 conditions.

This reduced rate was applied only to the period beyond 1996, since the forecasts for 1996 are based on official SIP forecasts submitted in 1993 which by definition represent the near-term results of current policies, and 1996 is now only one year away.

VMT growth for Scenario 3 was calculated by applying the state specific population growth forecasts to the 1996 VMT figure. These forecasts vary from a low of 0.1 percent annually

1/ The use of economic growth measurements would produce similar results.

Figure 6.1 VMT Growth by Scenario



in Massachusetts to a high of 1.5 percent in New Hampshire, with a New England-wide average of between 0.4 and 0.5 percent. This results in a 2020 VMT estimate of 388 million, or 26 percent higher than in 1990. This is consistent with the definition of Scenario 3 which calls for most trip growth to be accommodated by means other than private automobile travel. The growth in VMT would be due solely to population growth, not per capita increase in auto travel. Thus, under Scenario 3, VMT would be about 100 million less than under Scenario 1. For perspective, this difference represents about one-third of current VMT, and about 20 percent of Scenario 1 VMT.

VMT growth for Scenario 2 was assumed to be halfway in the middle between Scenarios 1 and 3, or 433 million.

These VMT estimates are used most directly in this report to forecast highway congestion and the attainment of ozone standards for the year 2020. They also define the amount of travel which must be accommodated by the other actions to be taken under Scenarios 2 and 3. In other words, VMT in Scenario 2 is forecast to be about 50 million less than in Scenario 1. Thus, this amount of travel must be accommodated by other means. The comparable figure for Scenario 3 is about 100 million. These other means include capacity expansions in other modes, as well as demand reduction strategies such as telecommuting, Travel Demand Management (TDM) and growth management.

It is beyond the resources of the NETI project to precisely forecast the capability of these other strategies to accommodate this travel demand. Therefore, these estimates should be viewed as measurements to be achieved by the strategies if we are to improve on the outlook for personal mobility, environmental protection, and economic vitality which are the consequences of Scenario 1. The potential impact of the Scenarios 2 and 3 strategies are presented in both qualitative and quantitative measures on a regional basis.

It is recognized that estimates of the future rate of VMT growth under current policies vary widely. The methodology presented here is not recommended for use in state-level official forecasts. It presents a realistic approach for examining the future of New England under three different transportation scenarios at a macro level.

Based on the VMT estimates, current policies being pursued under Scenario 1 do not offer a long-term solution to the region's mobility problems. In the area of passenger transportation, the region will experience increasingly high levels of automobile congestion on the major interstate and other parallel National Highway System (NHS) routes. As shown in Figure 6.2, the percentage of congested NHS route miles will almost double from the current 12 percent to 23 percent and the percentage of congested interstate highway miles will increase from 20 percent to 32 percent. While congestion will continue to be focused in urbanized areas (77 percent of roadway miles will still be uncongested), congestion will spread considerably further from the urban core. Figures 6.3 and 6.4 show the areas of congestion under each scenario. The I-95 corridor will be congested in almost its entirety from the New York border to Brunswick, Maine. The I-93 corridor will be congested from Manchester, New Hampshire to Cape Cod. The I-91 and I-84 corridors are congested throughout much of Connecticut west and south of Hartford. The current levels of investment in highway capacity expansion, capacity expansion in other modes, and

Figure 6.2 Percent of Congested Highway Miles – Existing and Year 2020

Figure 6.3 Highway Congestion – Future Conditions

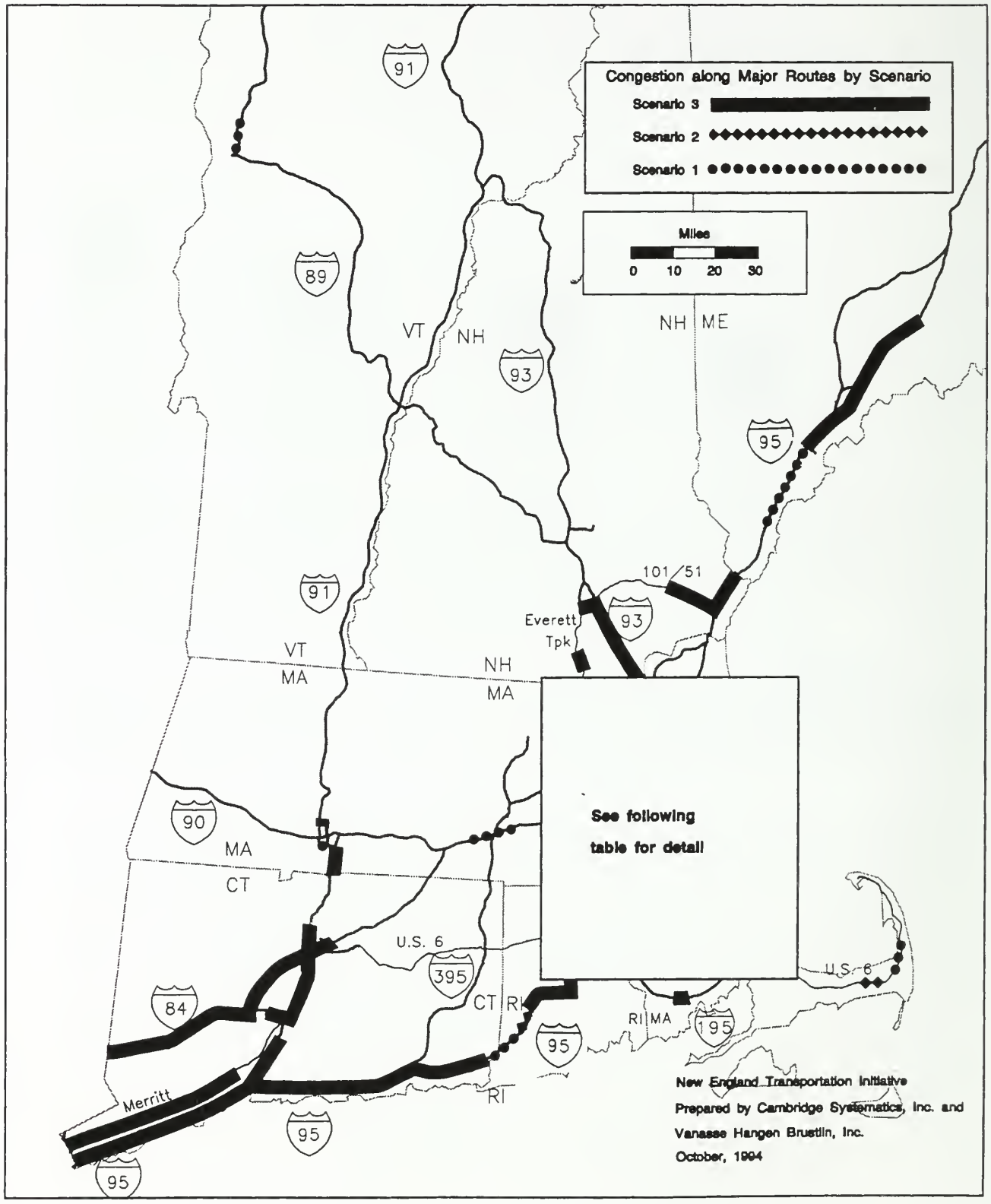
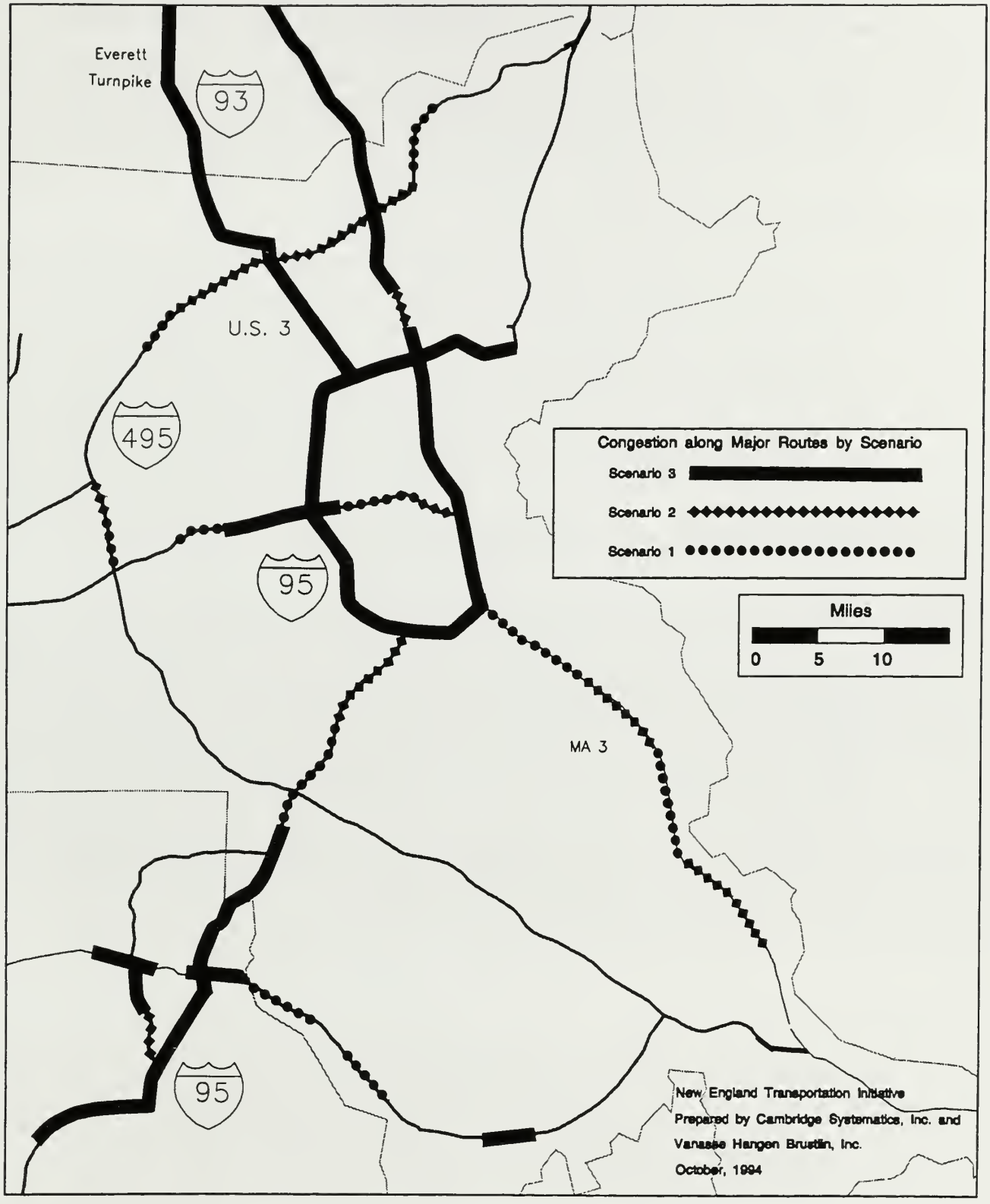


Figure 6.4 Highway Congestion – Future Conditions, Boston Metropolitan Area



travel demand and growth management strategies is insufficient to alter this future. Municipalities have no incentives for curtailing development policies which lead to sprawl development which in turn generates more and longer single-occupant vehicle trips (SOVs) due to the dispersed pattern of land uses. Funding to maintain the existing system in good working order, under the pressure of an almost doubling of VMT, will be insufficient.

Similarly, airport congestion will continue to worsen at Logan Airport in Boston which functions as the main connecting point between New England and other U.S. and international destinations. This will be true even though the other eight second tier regional airports are only serving approximately 60 percent of the combined potential demand in their service catchment areas. The reason for this situation is the lack of an organized strategy to meet the demand for air travel.

On the freight side, New England will become ever more dependent on truck transportation from outside the region to move imports and exports. Currently, 80 percent of all freight tonnage in the region moves by truck. These trucks will be operating on ever more congested highways. Today, 95 percent of all tonnage shipped through East Coast ports passes through New York/New Jersey, Philadelphia, Baltimore, and Norfolk. All other ports, including all New England ports, are competing for the other five percent. Even hinterland market shares will be eroded by competition with NY/NJ, Halifax and others – increasing truck mileage in the region. While New England ports compete with each other and New England states such as Massachusetts and Rhode Island try individually to bring double-stack rail access to their ports, our competitors are making major investments in both waterside facilities and double-stack access. As with air travel, the lack of an organized development strategy under Scenario 1 is critical.

Scenario 3 is discussed next because it proposes dramatic policy departures in both passenger and freight transportation. Scenarios 1 and 3 in effect define the boundaries of the discussion. Scenario 3 proposes to address the problem of passenger transportation congestion in both the highway and air service sectors by means of a New England-wide High Speed Ground Transportation (HSGT) system paralleling the major interstate routes of the region. Using very rough calculations, it is projected that this system would cost $30 billion and optimistically reduce VMT by 12 percent, but only in the corridors served.[2] Much of this reduction would occur on rural interstate highways which are not projected to be congested. In contrast, Scenario 3 assumes a 20 percent reduction in VMT throughout the region. While resources are diverted to the creation of this system, highway and air systems will become more congested to the detriment of the region's mobility. The resources to invest in parallel systems do not exist.

2/ This is based on data showing a 2 percent reduction in corridor VMT due to the conventional technology Northeast Corridor Transportation Plan (NCTP). Assuming that HSGT systems will cost approximately six times as much per mile as conventional rail systems; that benefits will increase proportionately to cost; and that densities comparable to the Northeast Corridor will exist elsewhere in New England – than a 12 percent reduction in corridor VMT (6x2) could be achieved. Ongoing HSGT studies in the U.S. have evidenced an upper range of private auto trip reduction of approximately seven percent.

The other possible role of an HSGT system is to reduce congestion related to air service. In fact, most studies of even moderate speed rail service such as planned for the Boston to New York corridor show that the majority of trip diversions will come from air travel rather than auto travel. New England has a finite air congestion problem. Logan International Airport in Boston is the only facility which experiences sustained air and ground-side congestion today. Forecasts for 2020 are for air congestion to possibly spread to Bradley International Airport outside of Hartford. New England has vastly under-utilized air capacity at existing commercial airports and likely to be abandoned military airfields. What it lacks is an organized strategy for using that capacity in a way that makes economic sense for air carriers.

The idea of the New England region, on its own, shifting the entire locus of its passenger transportation system from auto and air to HSGT is a misdirected, expensive and difficult to implement solution to the highway and air congestion problems identified in this report. It is oriented toward intercity travel rather than the urban commuter market which is the source of most congestion. Given its high cost, it will appeal to time-sensitive, price-insensitive business travelers who are primarily air travel, not auto travel oriented. It is a solution in search of a problem. However, individual corridor-specific conventional and high speed rail projects should be considered on their merits under Scenario 2 (see below). For example, all of the New England states fully support the Northeast Corridor Transportation Plan (NCTP) for three-hour rail service between Boston and New York.

On the other hand, the Scenario 3 proposal to create a New England Regional Intermodal Freight Alliance deserves support. The creation of an intermodal freight transportation system incorporating ports, airports, railroads and trucks is critical for maintaining the mobility of products in the region. The current state-by-state and port-by-port approach is unlikely to preserve existing markets or capture new ones; effectively target limited resources into an efficient strategic investment approach; or avoid an increasing reliance on truck traffic originating outside the region for freight transportation. Under this strategy, New England could become a key terminus of land bridge traffic from Asia through West Coast ports and on to Europe; a hub for the collection of Midwest and Northeast goods for shipment to Europe and South America; and develop a significant intermodal freight system to serve internal markets.

Scenario 2 proposes a series of middle range approaches. On the freight side, it proposes a similar outcome to Scenario 3 – a coordinated regional strategy. It proposes to reach this objective by means of a voluntary coordinated regional study rather than the creation of Regional Alliance which could lead to new institutional arrangements. A regional coordination planning study, absent a new regional institutional framework, is unlikely to be effective. The problem of external competition is simply too severe.

On the passenger side, however, Scenario 2 is the best approach. Scenario 2 includes a series of incremental actions targeted at specific corridors of congestion and access, none of which by themselves can solve the problem, but together can result in a more mobile region than under Scenario 1. It is far from business as usual, and is strongly multimodal in that it does not rely on a single mode (whether highways or high speed rail) to solve the problem. Some actions are targeted at specific urban areas such as commuter rail and HOV/bus programs. Others are intercity in nature such as the Northeast Corridor Transportation

Plan and other possible rail enhancements. Most of the highway capacity expansion and technology projects included in Scenario 1 remain in this scenario, while many of the former drop out of Scenario 3. Travel demand management (TDM) programs would be mandatory in public agencies while the incentive of public infrastructure investment would be used to generate support for such programs in the private sector. TDM programs would include ridesharing, telecommuting, and alternate work hours. Similarly, growth management planning to minimize sprawl development would be encouraged at the municipal, subregional, and employment center levels by targeting public infrastructure investment to those areas which encourage development that reduces reliance on ever longer single occupant vehicle trips. This strategy will also enable states and subregions to select strategies which are most appropriate to the urban congestion or rural access problems which they face.

On the air transportation side, the New England Council has initiated the first regional airport planning study in New England to assess the potential for improved air service through enhanced regional planning. Scenario 2 proposes a full effort in this direction leading toward the development of a regional demand allocation strategy among Logan Airport and a second tier of regional airports, so that a critical mass of services at competitive fares could be created at the second tier airports through negotiations with air carriers. This would enable Logan to reduce its quantity of short- and intermediate-haul operations and concentrate on the long-haul market. This would also help to maintain essential access to Logan for those areas of New England such as northern Vermont which are beyond the geographic range of the regional system.

In addition, studies of demand for air services find that teleconferencing has a greater potential for reducing the demand than do HSGT services. The combination of better utilizing existing airport capacity and promoting teleconferencing services offers a way to solve New England's limited air service congestion problem without constructing any new infrastructure at all aside from upgrades to existing airports. This approach is recommended in comparison to the Scenario 3 commitment to a regional HSGT system.

6.2 Environmental Quality

Ozone is the principle regional air quality problem. Today, all of southern New England, southern New Hampshire and the southwest coast of Maine is in marginal to severe non-attainment of the National Ambient Air Quality Standards for ozone. Consequently, it is important to evaluate the NETI strategies with respect to their potential to be successful in reducing ozone's precursor chemicals – volatile organic compounds (VOCs) and oxides of nitrogen (NO_x). To achieve the ozone standards, it is estimated that reductions in the range of 50-75 percent in both VOCs and NO_x are required. To help achieve this magnitude of reduction, the Ozone Transport Commission's Low Emitting Vehicle (LEV) program is assumed as a part of each of the three analysis scenarios.

As shown in Figure 6.5, implementation of the OTC LEV program in conjunction with the other emission reduction programs contained in the CAA would reduce VOC emissions in the six New England states by 77 percent in 2020 compared to projected 1999 levels. NO_x emissions would be reduced by 72 percent. The 20 percent reduction in VMT achieved by the additional demand reduction strategies contained in Scenario 3 compared to Scenario 1 will lead to only a further four percent reduction in VOCs and an additional three percent reduction in NO_x. On the other hand, as shown in Figure 6.6, failure to implement the LEV program will reduce VOCs by only 36 percent by year 2020 while NO_x will increase by one percent compared to 1999 levels.

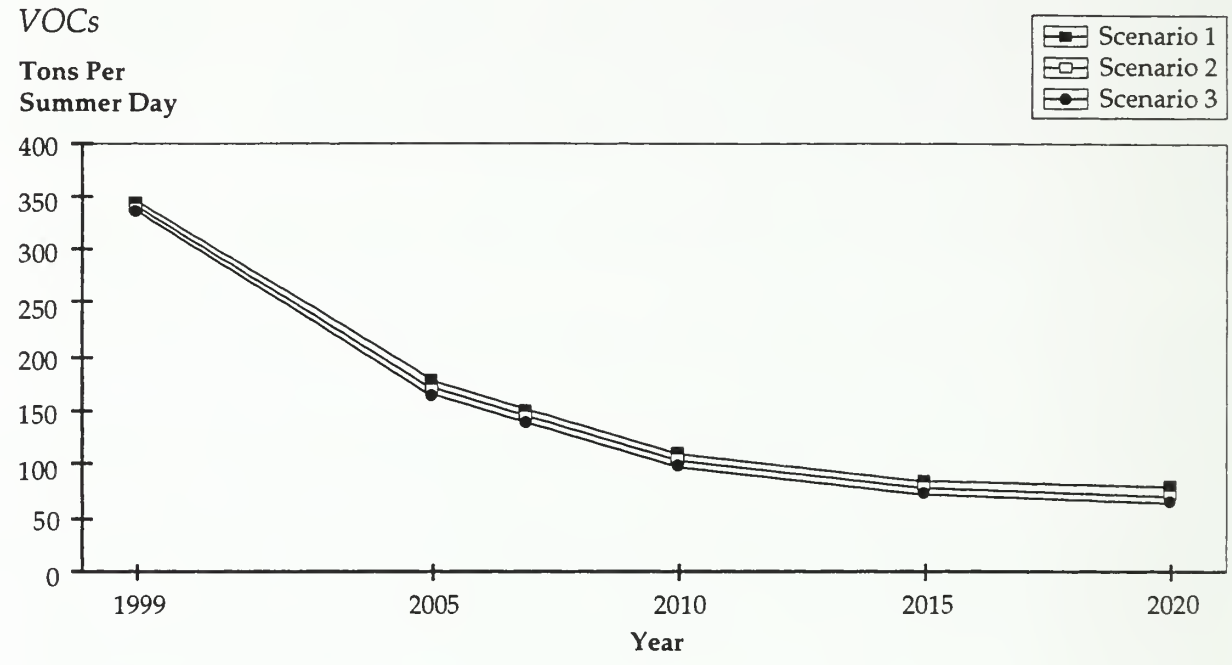
Reducing the growth in vehicle miles of travel is not sufficient to achieve air quality objectives, and may conflict with the goal of improving overall regional mobility in non-urban or other uncongested areas. Continued improvements in vehicle technology are required for mobile sources of emissions to be reduced by the magnitude necessary to achieve air quality standards.

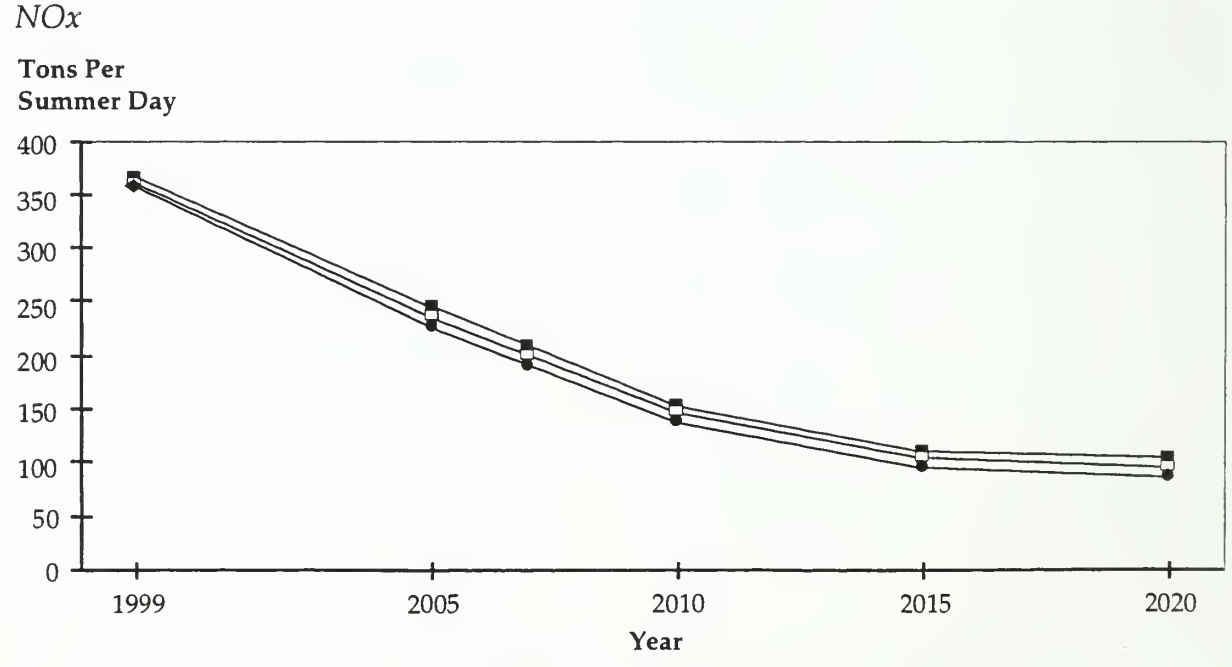
In the area of Energy, Scenario 1 assumes the implementation of the National Energy Policy Act's (NEPAct) Alternative Fueled Vehicle Fleet Program. Based on DOE data as shown in Figure 6.7, this would still result in an increase in gasoline consumption of 25 percent by the year 2020. This is an unacceptable future for New England. Under Scenario 2, the New England states would jointly develop and implement a regional alternative fueled vehicle infrastructure program which would increase the penetration of alternative fueled vehicles among large public and commercial fleets beyond that envisioned by the NEPAct. This would result in a five percent increase in gasoline consumption which would mean that New England would not become significantly more dependent on unstable foreign petroleum supplies. Scenario 3 would result in an eight percent reduction in gasoline consumption, achieved through a widespread market penetration of alternatively fueled vehicles for personal as well as fleet use. While this is an admirable goal, the Scenario 2 target is more realistic.

In the area of Land Use Planning and Growth Management, Scenario 1 will lead to continued pressure for sprawl development which inevitably results in VMT increasing faster than population growth. As home, work, and shopping locations spread out and leapfrog into ever larger extensions of urban areas, average trip length increases and the ability to service trips by public transportation and ridesharing diminishes. This is true despite the tendency of new suburban agglomerations called Edge Cities to form outside the traditional metropolitan core. Aside from the direct transportation consequences, this trend has several environmental consequences including the pressure placed on land, water and air resources; diminished quality of life as measured by reasonable commuting times and the enjoyment of New England's natural resources; and the preservation of a distinctly New England style of social organization focused on the traditional town or city center.

Under Scenario 1, the property tax-based system of municipal finance creates incentives for this style of development with no countervailing pressure. Under Scenario 2, this pressure will be provided by targeting government infrastructure investment to areas which promote development that will be transportation positive, i.e., it will not generate a

Figure 6.5 Estimated Emission Benefits – Light Duty Motor Vehicles (Less Than 6,000 lbs. GVWR)



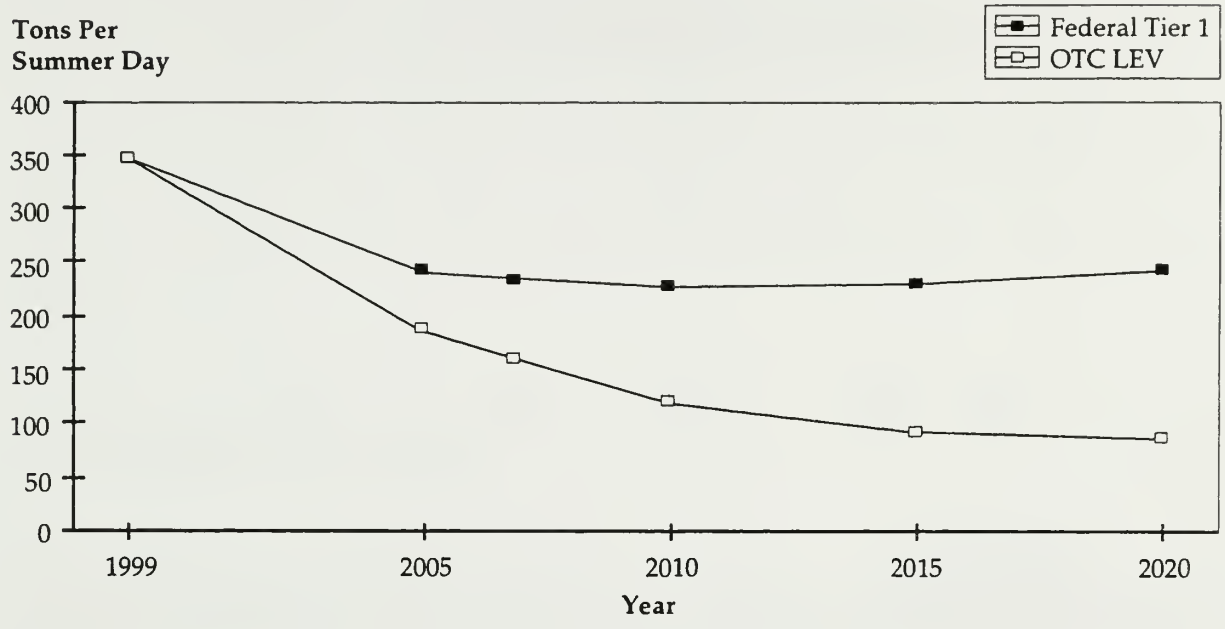


Source: Data provided on September 16, 1994 from Northeast States for Coordinated Air Use Management (NESCAUM).

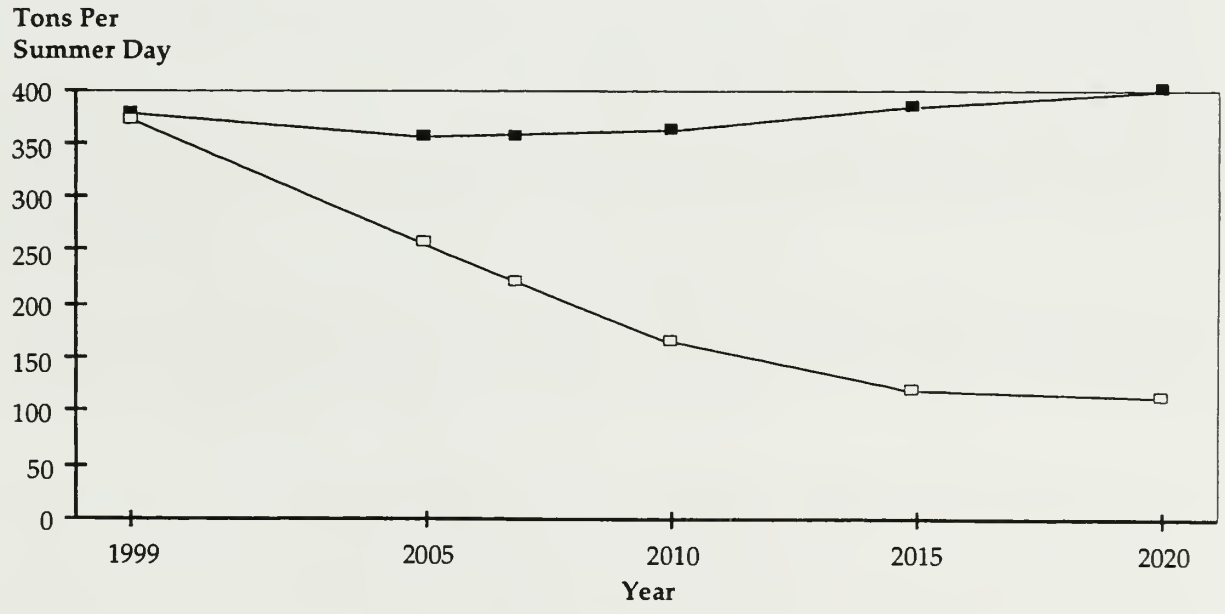
Figure 6.6 Estimated Emission Benefits of the Ozone Transport Commission's Low Emitting Vehicle Program – Light Duty Motor Vehicles (Less Than 6,000 lbs. GVWR)

Six New England States Annual VMT Growth Rate Equals 2.0 Percent

VOCs

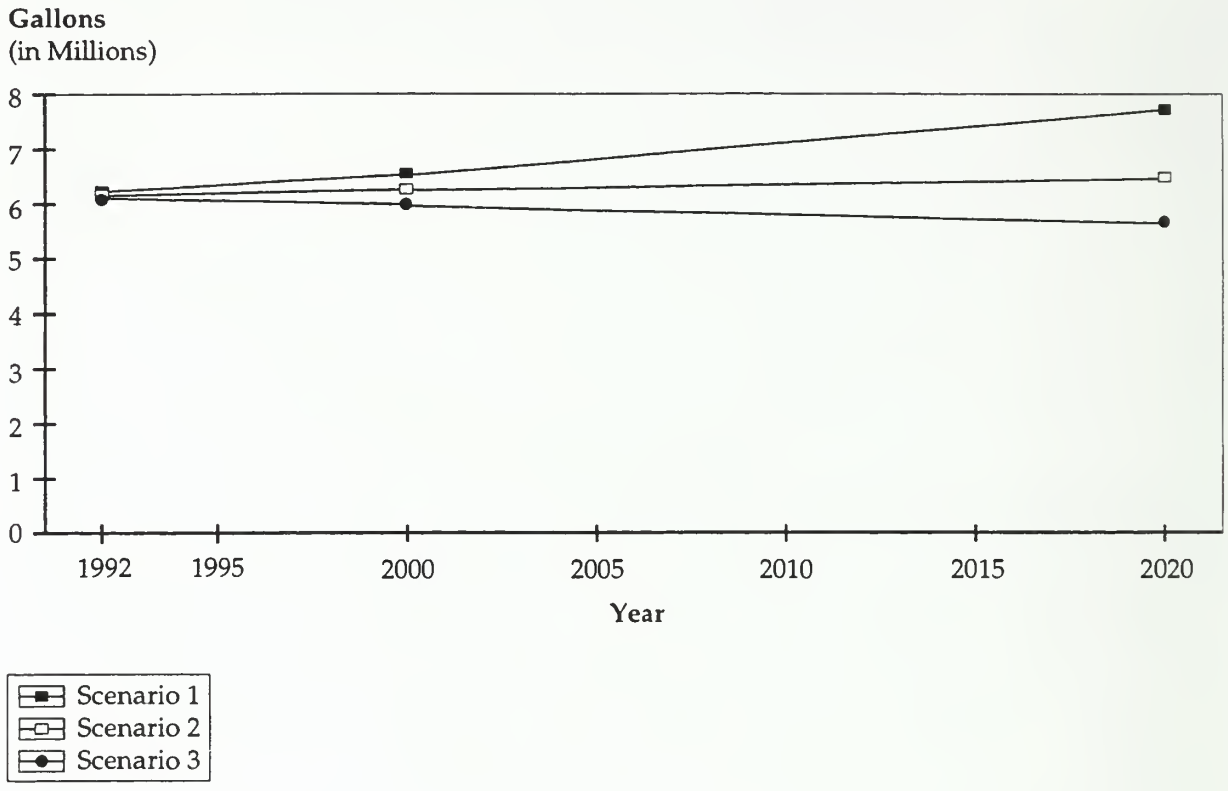


NOx



Source: Data provided on September 16, 1994 from Northeast States for Coordinated Air Use Management (NESCAUM).

Figure 6.7 Estimated Gasoline Consumption in New England



demand for longer trips, and will be feasible to serve by public transportation and ride-sharing. We recommend this approach. Scenario 3 calls for greater state coordination and mandates. Given the strong tradition of local autonomy in New England, we believe this approach on the whole is not institutionally feasible.

A final consideration is the environmental impact of building new transportation systems. While rail lines are generally perceived as being environmentally benign, they are construction projects like any other. Any proposals for new rail services using conventional technology elicit strong local opposition concerned about noise, construction impacts, parking, and even Electromagnetic Fields (EMF) in the case of electrified systems such as the NCTP. While the HSGT system should parallel and be incorporated into the interstate highway system to the extent possible, massive local environmental opposition should be expected to its construction. In comparison, the airport congestion problem which it is designed to relieve can be solved within the infrastructure of existing commercial and military airfields in New England, and by the growth of teleconferencing technologies which have essentially no infrastructure. This is the core of the Scenario 2 approach.

6.3 Economic Impacts

Under Scenario 1, New England will experience increasing levels of congestion in the movement of people and goods. This will have a negative impact on New England's economic vitality. The regional and national economic forecasts used throughout the NETI project have shown New England growing at between two-thirds and three-fourths the national average during the next 25 years. Even this rate of growth cannot be counted on under Scenario 1. This means that New Englanders will be growing poorer in relation to other Americans. It is important to understand that slow economic growth has environmental consequences as well. In periods of slow growth, the resources and political support to address environmental problems declines. In addition, the quality of life of many New Englanders as measured by the rewards of rising income will be less than for other Americans.

Scenario 2 offers the opportunity to at least achieve the projected levels of economic growth, albeit still less than the U.S. as a whole. This would be achieved by the range of passenger transportation initiatives included in the scenario which would reduce highway and air transportation congestion.

Scenario 3 has two completely opposite effects. The New England Regional Intermodal Freight Alliance, by providing for the more efficient movement of goods and services into and out of New England, has the potential to generate the extra increment of growth required to reach parity with national forecasts. On the other hand, the proposed HSGT system and related government mandates on travel behavior and growth management have potentially severe negative consequences. It would easily take the 25-year NETI

forecast period to achieve the full potential of the HSGT system. During this period, the New England states would have to forego the type of incremental investments in multi-modal capacity expansion characterized by Scenario 2. The region could not possibly afford to invest in parallel systems, one of which would become redundant. During this period, congestion would increase on the core highway and air systems and become major detriments to business growth. In addition, government mandates in the areas of TDM and growth management, while necessary adjuncts to the process of shifting travel behavior from one mode to another, would also be major disincentives to business growth. This is a high risk strategy with very uncertain benefits.

Appendices

Appendix A. Committee Memberships
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Appendix H. Comments on Plan of Cooperation
Appendix I. List of Sources

Appendix A. Committee Memberships

Policy Committee

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Gedeon Picher
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Massachusetts Executive Office of Transportation and Construction

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Vermont Agency of Development and Community Affairs

* We would also like to acknowledge the contributions of former Policy Committee members Michael Saunders of Connecticut, Thorn Mead and Charles Steele of Massachusetts, and Lloyd Robinson of Vermont.

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Janis Loiselle, Rhode Island Department of Transportation

Peter Janaros, Rhode Island Department of Transportation

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Richard Watts, Vermont Agency of Transportation

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Thomas F. Valleau, City of Portland Waterfront and Transportation Facilities

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Robert Pritchard, The ATA Foundation, Inc.

Phil Shutt, CIT Plan

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Steve Burns, Strafford Regional Planning Commission

Bruce Dining, Marine Energy Systems

John T. Goodhue

Tom Greenman

William Klubben, Central New Hampshire Regional Planning Commission

Bruce A. Montville, Exeter International, Inc.

Donald Zizzi, Nashua Regional Planning Commission

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John Atwood, Rhode Island Trucking Association, Inc.

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Alison Walsh, Save the Bay

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Ned Farquhar

Kristin Martinez, Rutland Industrial Development Corporation

Steve Sease, Agency of Natural Resources

Rich Sedano, Department of Public Services

Greg Voorheis, E&T Administration

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Joe Choquette, Vermont Petroleum Association

Andrew Christo, C.H. Sprague & Son Company

Ken Colburn, Business & Industry Association of New Hampshire

David Cutler, Bombardier

Merlin DeConti, Johnson & Wales University

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Tom Grygkowski, United Technology Research Center

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Harry Holt, Columbia Air Services

Susan Houston, Mass. Alliance for Economic Development

Nancy Huntley, Lockheed Sanders, Inc.

Jeff Lander, Public Service Company of New Hampshire

James McElroy, Amtrol, Inc.

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John Musick, Lockheed Sanders, Inc.

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Ray Pecor, Lake Champlain Transportation

John Peters, Rhode Island Hospital

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Floyd Rutherford, Paper Industry Information Office

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Vince Scarano, Federal Aviation Administration

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List of Authors

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Paul B. Smith, Vanasse Hangen Brustlin,Inc.

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Elizabeth Peart, Cambridge Systematics

Trucks
Carol Colman, Cambridge Systematics

Railroads
Jan Okolowicz, Parsons Brinckerhoff Quade and Douglas, Inc.

Airports
Joakim Karlsson, Hoyle, Tanner and Associates
Richard Ludders, Hoyle, Tanner and Associates

Ports
Nathan Cherry, TAMS Consultants, Inc.
Gerald Friedman, TAMS Consultants. Inc.
Charles Norris, TAMS Consultants, Inc.

Travel Demand Management
Elizabeth Peart, Cambridge Systematics

Financing
Thomas Humphrey, Cambridge Systematics

Air Quality and Energy
John Suhrbier, Cambridge Systematics

Land Use
James Purdy, Wallace Floyd Associates

Economics
Debby Carr, Cambridge Systematics
John Reed, Cambridge Systematics

Public Participation
Anne McKinnon, Howard/Stein-Hudson
Kathy Stein-Hudson, Howard/Stein-Hudson

NETI Librarian
Jocelyn Shepard, Cambridge Systematics

Appendix C. List of Meetings and Publications

List of Meetings and Publications

Official NETI Meetings

Policy Committee
- September 30, 1993
- November 16, 1993
- January 6, 1994
- March 25, 1994
- April 22, 1994
- May 31, 1994
- June 17, 1994
- July 29, 1994
- August 23, 1994
- October 5, 1994
- October 19, 1994
- November 30, 1994
- December 16, 1994
- February 6, 1995

Regional Public Meetings
- October 31, 1993 – Concord, NH
- November 3, 1993 – Providence, RI
- January 30, 1995 – Concord, NH
- January 31, 1995 – Hartford, CT

New England Regional Technical Advisory Committee (NERTAC)
- February 16, 1994
- May 5, 1994
- June 28, 1994
- November 10, 1994
- January 17, 1995

Business Roundtable
- May 25, 1994
- June 27, 1994
- November 10, 1994
- January 17, 1995

Intergovernmental Committee
- May 24, 1994
- November 10, 1994
- January 17, 1995

State Advisory Committee Meetings with Consultant

Connecticut
- October 19, 1993
- July 19, 1994
- November 15, 1994

Maine
- July 25, 1994

Massachusetts
- October 21, 1993
- November 14, 1994
- January 26, 1995

New Hampshire
- April 5, 1994
- July 21, 1994
- November 22, 1994

Rhode Island
- November 9, 1993
- July 20, 1994
- January 24, 1995

Vermont
- March 14, 1994
- July 12, 1994
- November 17, 1994
- February 1, 1995

NETI Newsletters and Press Releases

Newsletters

December 1993

April 1994

August 1994

January 1995

Press Releases

September 20, 1994

January 13, 1995

Individual states periodically sent press releases to their local media.

Appendix D. Sample Articles

Study Proposes Intermodal Agency For New England

Journal of Commerce Staff

BOSTON — A federally funded study has proposed the creation of a New England Intermodal Authority as a means of coordinating transportation policy for the six states in the region.

The study by the New England Transportation Initiative, a group sponsored by the states and the New England Governors Conference, presents the authority concept as an option for major change in planning transportation investments and maximizing limited resources by moderating interstate competition.

The draft report cites the Port Authority of New York & New Jersey as a precedent for the idea of a multistate intermodal authority. It notes, however, that large authorities "have fallen into disfavor" because of "their tendencies to become too big and too divorced from popular opinion and the political process."

The authors suggest separating the functions of the authority to address a particular problem, so that planning alone would become a regional responsibility, while operations would remain either local or private.

A regional authority would be needed to implement policy changes included in one of three scenarios outlined in the report.

The scenario for major change includes measures that would have effects beyond state boundaries, such as growth management planning, regional auctions of federal emissions credits to meet clean-air standards, pricing strategies to promote high-speed ground transportation and increases in international rail freight service with major new Canadian and cross-Hudson gateways.

The scenario for more moderate change would not require a new authority but still would entail greater cooperation among the states and increases in funding.

The study presents the authority concept as an option for major change in planning transportation investments and maximizing limited resources.

The states would agree on regional investment and marketing strategies for transportation that would include choices of a small number of intermodal freight hubs from a list of centers including Boston; Worcester and Ayer, Mass.; Davisville, R.I.; Portland, Maine; and the former Pease Air Force base in New Hampshire.

A double-stack rail network would be created that would include clearance improvements from Worcester west and an agreed-upon strategy for extending stack service into Boston. Additional stack routes would be opened up from Worcester to Davisville and on Central Vermont Railway, the report said.

The states also would seek to promote the shift of long-haul freight traffic from trucks to rail. Regional trucking companies could handle shipments that are now taken by trucks from outside the area.

The final scenario involves the pursuit of current transportation policies, an option that the study's authors clearly find the least desirable.

If current policies are followed until the year 2020, the report forecasts that transport will remain largely uncoordinated and market-driven, with negative consequences that will include service abandonments by both air and motor carriers.

MDOT News

New England's Transportation Needs Outlined

To preserve New England's economic vitality and way of life, more cooperation among the states is necessary and new ways of approaching old problems must be adopted. That's the message from a group whose mission is to develop a regional transportation plan for New England that provides better mobility, economic growth and a clean environment.

The New England Transportation Initiative was formed nine months ago by the six New England states and is overseen by the heads of the Departments of Transportation and representatives from environmental and economic agencies. The group has reached the halfway mark of its study of the region's existing transportation systems and has issued an interim report.

The report, Transportation Alternative Scenarios, provides three scenarios of how New England could look in the year 2020, based on its transportation systems, air quality, land-use patterns, energy sources, work arrangements and other aspects of New England life.

Scenario I shows a regional intermodal transportation system based on few changes to existing policies, while Scenarios II and III show systems resulting from moderate and major changes in the cooperation between the states and their acceptance of new public policy approaches.

As an example. "moderate" changes could include new intercity and commuter rail services, enhanced rural bus services, and increased capacity on congested highways. But to achieve these changes, the report suggests that New England states must have greater intra-regional cooperation, be willing to experiment with different funding mechanisms, and be more aggressive with their demand and growth management programs.

Although the study accepts the role government will play in the development of future transportation systems, it stresses that public and private partnerships, voluntary actions, and incentives and disincentives are necessary to accomplish the region's goals.

Charles Repeta, project manager of the New England Transportation Initiative (NETI) study, says NETI's comprehensive analysis and study of New England's transportation system is needed to ensure the economic viability of the region in the future. He said the group followed federal policies established in the Intermodal Surface Transportation Efficiency Act of 1991 and the 1990 Clean Air Act Amendments in the development of the study.

The next step in the group's study will be to "test" the scenarios by using different data to analyze the implications of various levels of cooperation and different public policy approaches. The results of this analysis are expected this fall.

October, 1994

ESTABLISHED 1897

The Times Argus

Vol. 98 No 101 USPS 630-820 | Tuesday Afternoon, July 12, 1994 | Barre-Montpelier, Vermont | 16 Pages — Fifty Cents

Hearing On Region's Transportation Tonight

Times Argus Staff

MONTPELIER — The Vermont Agency of Transportation is sponsoring a public hearing to examine and discuss a regional transportation plan tonight.

The hearing, which is scheduled from 6:30-8:30 p.m. in the fourth floor conference room of the Pavilion Office Building on State Street in Montpelier, will focus on the "New England Transportation Initiative" — a study that has developed three scenarios of what the future of transportation in Vermont could be.

Those scenarios include the future:

- Under current building and driving trends;
- With some market-based changes; and
- with strong regulatory and government intervention.

The New England Transportation Initiative is a three-phase 17-month study that will develop a plan of cooperation for the six New England States for an intermodal investment strategy that will improve the region's transportation network.

SURFACE TRANSPORTATION POLICY PROJECT

PROGRESS

Volume IV, Number 8 October 1994

The Future of New England Transportation

— The New England Transportation Initiative (NETI) is a six-state consortium to develop an intermodal transportation investment strategy. The goals of the 18-month study, to be completed in early 1995, are to develop strategies to improve mobility of persons and goods, promote economic development and improve New England's environment. NETI will develop a plan for regional transportation facilities, impacts of land use decisions, economic development and more. The six states included in NETI are: Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont. For more information please write: New England Transportation Initiative; c/o Marc Cutler; Cambridge Systematics; 150 Cambridge Park Drive, Suite 4000; Cambridge, MA 02140.

Appendix E. Report Repositories

Report Repositories

Maine

Reference
Maine State Library
State House Station #64
Augusta, ME 04333

Reference
Portland Public Library
5 Monument Square
Portland, ME 04101

Massachusetts

Irene Guthrie
State Transportation Library
10 Park Plaza
Boston, MA 02116

William Thompson
Documents Collection
UMASS Library
Amherst, MA 01103

New Hampshire

Collection Development
Dimond Library
University of New Hampshire
Durham, NH 03824

Donna Gilbreth
New Hampshire State Library
20 Park Street
Concord, NH 03301

Rhode Island

Shirley Long
Providence Public Library
225 Washington Street
Providence, RI 02903

Deborah Mongeau
Government Publications Office
University of Rhode Island Library
Kingston, RI 02881-0803

Vermont

Reference
Fletcher Free Library
235 College Street
Burlington, VT 05401

Reference
State Library
109 State Street
Burlington, VT 05600

Appendix F. Acronyms and Abbreviations

Acronyms and Abbreviations

AADT	Annual average daily traffic
AIP	Airport Improvement Program
AMTRAK	National Railroad Passenger Corporation
APTS	Advanced Public Transportation Systems
ATIS	Advanced Traveler Information Systems
ATMS	Advanced Traffic Management Systems
AVCS	Advanced Vehicle Control Systems
CAAA	Clean Air Act Amendments – Federal legislation which establishes allocable levels, known as NAAQS, for various pollutants; and establishes timetables and strategies for their achievement.
CAFE	Corporate Average Fuel Economy – Auto manufacturer vehicle fleet fuel economy standards.
CIPs	Capital Improvement Programs
CONRAIL	Consolidated Rail Corporation
CVO	Commercial Vehicle Operations
EAS	Essential Air Services – Federal subsidies for scheduled air services to smaller communities.
EPA	Environmental Protection Agency
ETTM	Electronic Toll and Traffic Management
FAA	Federal Aviation Administration
FEEDER SERVICE	Transit service which provides access to and from a service providing line-haul service.
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration

HOV	High Occupancy Vehicle – Applied to vehicles carrying two or more people.
HSGT	High Speed Ground Transportation – Includes conventional high-speed rail and maglev.
ICC	Interstate Commerce Commission
INTERMODAL	Connectivity between modes as a means of facilitating linked tripmaking. It emphasizes connections, choices, coordination, and cooperation.
ISTEA	Intermodal Surface Transportation Efficiency Act
IVHS	Intelligent Vehicle Highway System – Computer and communications technology that provides real-time information to operators of vehicles about transportation system conditions. Also includes technologies that identify, monitor, or control vehicles.
ITS	Intelligent Transportation System (replaces IVHS)
LEV	Low Emitting Vehicle
LINE-HAUL SERVICE	Transport along a single corridor without branches.
MAGLEV	High-speed (300 mph) fixed guideway transportation systems that utilize magnetic systems for levitation and propulsion.
MBTA	Massachusetts Bay Transportation Authority
NAAQS	National Ambient Air Quality Standards – Federal standards for allowable concentrations and exposure limits for ozone, CO and PM10.
NCTP	Northeast Corridor Transportation Plan – Current title of the on-going program of high speed rail improvements primarily between Boston and New York City.
NEPAct	National Energy Policy Act
NETI	New England Transportation Initiative
NHS	National Highway System – Classification of roads authorized by ISTEA comprised of Interstate Highways and roads designated as important for interstate travel and commerce. The NHS is currently being developed as the first component of a larger, intermodal National Transportation System (NTS).
NONATTAINMENT AREA	A geographic region that is not in compliance with the NAAQS.

NO_x	Nitrogen Oxides – Precursor emission that forms from high-temperature combustion processes. React with VOCs in the presence of heat and sunlight to form ozone.
OTC	Ozone Transport Commission
OZONE	A colorless gas with a sweet odor that is not a direct emission from transportation sources, but is formed when VOCs (hydrocarbons) and NO_x (nitrogen oxides) from car exhausts and certain industrial emissions combine in the presence of sunlight. Ozone is associated with smog or haze conditions.
PFC	Passenger Facility Charges – Local fees assessed on tickets used to finance airports.
Road Railer	Intermodal technology that involves the use of rubber-tired track trailer fitted onto rail wheel sets and combined with other units to form a train.
R.O.W.	Right-of-way – The land occupied by transportation facilities – typically associated with highway and railroad linear alignments.
SAR	Strategic Assessment Report – Massachusetts Aeronautics Commission initiated this study to investigate the impact of alternatives to constructing a second major airport.
SIP	State Implementation Plan – A document that contains strategies to bring an area into compliance with the NAAQS, as specified in the CAAA. Prepared by states and submitted to the U.S. EPA for approval.
SOV	Single-occupant vehicle
TCM	Transportation Control Measures – Actions that improve traffic flow or reduce vehicle use or congestion with the objective of reducing air pollutant emissions.
TDM	Travel Demand Management – Transportation actions that attempt to control or alter existing travel patterns or use. Included are ridesharing, requiring alternative work hours flextime, or increasing travel costs for certain modes.
TGV	Trains à Grande Vitesse – High speed (180 mph) French-designed passenger trainsets which operate over newly constructed electrified rail lines.
VMT	Vehicle Miles of Travel – Represents the sum total of all travel by auto, truck and bus in the region.
ZEV	Zero Emitting Vehicle

Appendix G. Response to Comments on Plan of Cooperation

Response to Comments on Plan of Cooperation

The following are responses to the written comments received on the Plan of Cooperation. They correspond to the circled numbers on the comments included in Appendix H. References to "see text" mean that the comment has been incorporated into the text of the Final Report. Repetitive comments are cross-referenced. Each comment is briefly summarized, with the author and their affiliation included in parentheses, followed by the response.

1. The automobile is a "dinosaur" and new technologies such as LEV and electric cars are "sci-fi." (Walter Nutter/Brotherhood of Locomotive Engineers & MA Advisory Committee)

   We disagree. A non-auto-oriented vision based on a regional high speed rail network was developed, analyzed, and rejected for a variety of reasons including cost, travel demand potential, environmental impacts, and lack of public support. The study concludes that automobile travel will continue to be the predominant mode of passenger travel in the U.S. given prevailing demographic, cultural, and travel patterns. However, it must be complemented with other modes, travel demand management strategies, and improvements in automobile and highway technology to minimize externalities and optimize efficiency. Automobile technology has dramatically improved in the past twenty years in terms of both fuel efficiency and emissions. Carbon monoxide and ozone violations have declined even as VMT has increased. LEV and electric car technology exist now for commercial application. The discussions among EPA, the auto manufacturers, and the Northeast states concern only the details.

2. "Little attention" was paid to passenger rail. (Nutter)

   The Plan is very supportive of rail projects where, in the letter author's own words, "there are thousands of daily single-occupant travelers taking the same roads from point A to point B." The Plan agrees with that definition of rail and supports rail projects precisely where it can accomplish that purpose such as urban commuter rail systems and the Northeast Corridor. However, much of our travel patterns are highly dispersed and are likely to become more so due to two worker families, suburbanization, telecommuting, etc. This has already happened and will continue due to demographic and technological trends. It is not possible to recreate the 19th century centralized city served by mass movement fixed guideway systems and solve all of our transportation problems. Society has become too disparate in too many ways. Therefore, the Plan endorses rail as one solution among many in appropriate corridors

where it can cost effectively meet travel demand patterns. The same standard is applied to other strategies as well.

3. The Plan should support the North Station to South Station rail connection in Boston, and commuter rail expansions to southern New Hampshire. (Nutter)

   The Plan specifically endorses "the expansion and improvement of commuter rail services between downtown Boston and points in New Hampshire and Rhode Island." A consensus does not exist among the states that the North Station to South Station rail connection is the most cost-effective solution to the problem of interregional rail connectivity.

4. The Plan should acknowledge the need for increases in Logan's airside capacity as part of a regional strategy which does not include a second major regional airport. (Ralph Nicosia-Rusin/FAA)

   Agreed. See text.

5. The Plan should limit the recommendation regarding Travel Demand Management to areas of sufficient density. (Nicosia-Rusin)

   This issue was raised at a public meeting and considerable disagreement was expressed. In particular, a representative from Vermont noted that it is one of the most rural states yet has very strict land use and transportation planning laws in Acts 200 and 250.

6. The Plan should consider Tiltrotor aircraft technology and Vertiports. (Nicosia-Rusin)

   This issue will be noted as a significant topic not addressed.

7. Clarify comment regarding additional abandoned military airfields. (Nicosia-Rusin)

   New England's underutilized airport capacity is likely to increase, placing even greater importance on regional planning to optimize the use of available capacity as opposed to building new capacity.

8. As an implementation strategy, the Plan should encourage modal organizations to confer on a regional basis. (Nicosia-Rusin)

   This is the concept behind the Regional Freight Alliance and the endorsement of regional airport planning efforts.

9. Revenue from congestion pricing demonstration projects should not be used to add capacity in the affected corridors. (Veronika Thiebach/Conservation Law Foundation)

   In order to develop public support for such efforts, it is important that the revenue generated be applied to related problems in a highly visible way. The Plan should not take a position on the specific application beyond that. See text.

10. The Plan should not endorse state promoted add-a-lane projects. (Thiebach)

    A very limited number of such projects are endorsed where there is a high degree of congestion on a major facility serving regional traffic, and where the state in question has determined that additional capacity can have a significant positive impact on traffic flow. No highway projects beyond those already well advanced in state planning process are proposed. The Plan endorses a multi-faceted approach to congestion problems including highway, rail, and travel demand management projects.

11. The Plan should endorse more specific rail projects. (Thiebach)

    The Plan endorses those project around which a regional consensus exists.

12. The Plan should endorse a passenger rail alliance similar to the freight alliance. (Thiebach)

    It is felt that sufficient institutional structures for addressing passenger transportation issues already exist.

13. Mandatory coordination between transportation infrastructure development and local planning and tax policy is necessary to prevent VMT growth. (Nancy Reed/Asert)

    The study does not endorse a goal of preventing all VMT growth. The imposition of mandates by higher governmental bodies on lower bodies would not seem to be an idea with strong popular support in today's environment.

14. Transportation funding must be made modal-neutral. (Reed)

    Due to limited resources, the study was not able to assess transportation cross-subsidy issues in depth. This should be mentioned as an issue not addressed. See Text.

15. Government and private industry must be challenged to address mass transit technological gaps. (Reed)

    The study endorses proven new technologies such as the combination of vehicle, power, and right-of-way improvements targeted for the Northeast Corridor rail network.

16. In addition to "activity centers," transportation improvements should also be targeted to transit services in urban core areas. (E. Heidi Roddis/MA Audubon Society)

    Agreed. See text.

17. More attention should be paid to water resource issues as they interplay with transportation policy. (Roddis)

    In an effort to focus the study and produce meaningful results, a small number of issues were addressed. In the environmental area, these included air quality, energy, and land use planning. The Study acknowledges the importance of water resource issues.

18. The North Station to South Station rail link should be endorsed. (Roddis)

    See #3.

19. A passenger rail alliance should be formed. (Roddis)

    See #12.

20. The Plan should endorse the western corridor for rail service from NYC to Burlington. (John Pennington/Vermont Railway)

    The Plan endorses the maintenance of critical rail assets.

21. The Plan underplays the role of rail and should specifically endorse the North Station to South Station connector and the Amtrak Northeast Corridor electrification project. (David Jones/Old Lyme, CT)

    See #3. The Plan does endorse the Northeast Corridor Transportation Plan for three-hour rail service between Boston and New York City.

22. The government should continue to allow the private sector to handle tourist trains. (Jones)

    Agreed. The government should facilitate where necessary.

23. New England is not astride the land bridge corridor from Asia to Europe. (Jones)

    The study does not conclude that it is or is not – it merely acknowledges that individual states are contemplating investments such as double stack rail and harbor dredging which suppose that it is; and that consideration of such major investments should occur on a regional basis.

24. The report should acknowledge the importance of New York State as a rail gateway. (Jones)

    Dealing with this issue is specifically mentioned as a possible task for the Freight Alliance.

25. More emphasis should be paid to trailer on flatcar technologies. (Jones)

    There is a strong consensus that the growth in rail freight will come in double stack or alternative technologies such as RoadRailers which are mentioned.

26. More emphasis should be placed on intercity bus. (Jones)

    An entire chapter of analysis on intercity bus issues was provided in each technical report. The study endorses the maintenance of a healthy intercity bus industry and the development of HOV projects in urban areas.

27. Connecticut seems to "come up short" in the study. (Gary W. LaBrake/Motor Transport Association of Connecticut)

    A great deal of emphasis is placed on the congestion problems in the major highway corridors of Connecticut and how these affect regional access to New England; the potential role of Bradley International Airport is emphasized; and commuter rail improvements on the Metro North system are endorsed as being regionally significant.

28. The Plan should not endorse cross-subsidization of modes. (Labrake)

    It doesn't. The Plan does not make any recommendations on system financing.

29. The Business Roundtable should be joined with the citizen advisory committees. (Labrake)

    Agreed. This was done at the last two rounds of meetings.

30. Alternative fuel infrastructure strategies need to be implemented at the local level; regulatory impediments to the use of Compressed Natural Gas (CNG) should be removed. (Richard W. Wallace/Stamford, CT)

    Agreed. NETI is only intended to help coordinate a regional policy initiative which would then have to be implemented locally. The problem referenced regarding CNG is a perfect example of an issue which could be addressed through regional coordination. (Wallace)

31. Isn't OTC handling the LEV negotiations? What is NETI's role? (Wallace)

    Yes. However, it was important for NETI to reaffirm the support of the New England states for the OTC LEV initiative.

32. Double-stack access to ports doesn't have much to offer Connecticut. (Connecticut Construction Industries Association, Inc.)

    The proposed rail freight network is a sample concept. The actual plan would need to be developed by the Freight Alliance. RoadRailer technology is mentioned for Connecticut due to the substantial bridge clearance problem.

33. Travel demand management is "nothing more than the repression of mobility." (CCIA)

    TDM is not intended to suppress the demand for travel but to create circumstances in which the demand can be most efficiently met with the fewest societal externalities. No one likes to drive 40 miles to work everyday – but people do it because of land use development patterns. Affording someone the opportunity to work at home part of the time and telecommute is not repressing their mobility. Providing alternatives to single occupant auto travel does not mean that the trip can't be made, but rather that it might be possible to make it in a less congested and expensive fashion.

34. Fleets are the focus of alternatively fueled vehicle applications so that fleet owners could provide the necessary facilities. (CCIA)

    Fleets travel far from home bases.

35. What are the changes in social and work patterns which could minimize travel demand growth? What is the relationship of VMT growth to economic activity? (CCIA)

    The growth in telecommunications technologies and the ability of people to work in a variety of settings in addition to the traditional office offer an opportunity to separate the historic connection between VMT growth and economic growth.

36. Doesn't economic growth lead to environmental degradation? (CCIA)

    Part of what New England has to sell to the rest of the world is its environment – destroy that and you will destroy its economic potential.

37. The Plan argues for a "statist freight organization." (CCIA)

    The Freight Alliance was specifically designed as a non-bureaucratic voluntary association of public and private parties involved in freight transportation.

38. How about Hartford-Providence as a high priority corridor? (CCIA)

    The problems in this corridor tend to involve highway safety and travel times rather than highway congestion which was the focus of the study. Rhode Island, one of the two states affected, is planning only a minimal upgrade of Route 6 for safety purposes due to environmental concerns regarding the nearby Scituate Reservoir.

39. Double-stack access should be provided between Portland and Canada by eliminating the bridge clearance restriction in Gorham, NH on the St. Lawrence and Atlantic line. (John T. Sutton/Belgrade, ME)

    This route is included in the conceptual rail freight network map presented in the report.

40. Intermodal connections are an essential part of passenger rail services. (Sutton)

    This is emphasized in the tourism transportation initiative.

41. The North Station to South Station rail link is of critical importance. (Sutton)

    See #3.

42. Tourist trains are an important component of tourism initiatives. (Sutton)

    This is acknowledged in the transportation tourism discussion.

43. Portland has double stack rail access. (Bernard P. Rines/Gorham, ME)

    Letter author acknowledges correction in #43A.

44. The Plan should endorse expansion of (seasonal) passenger rail service to major tourist destinations. (Everett Stuart/North Kingstown, RI)

    A consensus does not exist on the regional transportation value of such investments, as opposed to the role of local tourist train operations in fostering local economic benefits.

45. The recommendation regarding growth management planning should be clarified; also – how can it be translated from the regional to state and local levels? (Susan Morrison/Rhode Island Division of Statewide Planning)

    The recommendation is intended to reward areas which engage in responsible growth management planning, i.e., targeting development to locations which can be efficiently served by transportation infrastructure. Land use planning decisions will continue to be made at the local and subregional levels. However, it is hoped that state DOTs can influence this process by appropriately targeting the supporting transportation infrastructure investment. The six DOTs of New England have now gone on record as supporting growth management planning, an act which can be referenced in local planning decision-making processes.

46. Have regional intermodal travel demand forecasting models been attempted? (Morrison)

    Many individual states now developing statewide models are larger than all of New England.

47. Should the tourism initiative be coordinated with officials already involved in this process? (Morrison)

    Yes. The intention is to have transportation officials work with state tourism officials through Offices of Economic Affairs, which are already involved in the NETI process in some states.

48. The recommendation regarding alternative fuel infrastructure should be reworded so that it doesn't sound like the states will be building fuel stations. (Morrison)

    Agreed. See text.

49. Is there a particular facility intended to be served by the New England Central Railroad as part of the conceptual rail freight network? (Harry Snyder/Providence and Worcester Railroad Company)

    The intention is to connect into the Massachusetts and Rhode Island double-stack network with access to Boston and Davisville, and to whichever technology is used to connect to New London.

50. What is meant by key facilities and who will make such a determination? (Snyder)

    Key facilities are those which the New England states agree warrant investment to support a regional freight strategy. Such a designation would be made on a voluntary basis by the Freight Alliance to the extent that a consensus can be reached.

51. Does the Plan contemplate that the Alliance would be the owner of port facilities? (Snyder)

    Only if the particular states so desired and a regional consensus could be created to establish the necessary institutional framework.

52. If the Alliance serves only an advisory function how can it "secure and distribute federal funds?" (Snyder)

    The Alliance is intended to begin as an advisory entity and take on such roles, and create the necessary institutional mechanisms, as desired by the participants. The list of roles is intended to be illustrative of possible directions in which the Alliance might evolve.

53. What is meant by the Alliance function of equitably distributing costs and revenue? (Snyder)

    The intention is to distribute public sector costs and revenues across the region as part of a regional strategic freight investment strategy. Again, this would only happen if a consensus was reached among the participants to do so. The concept is that it might be possible to convince a particular state to forego an investment in freight infrastructure which would be competitive with another facility in another New England state to the detriment of the region, if the state could share in the revenue generated by the other state's facility. Obviously, the institutional mechanisms to do so in the freight arena do not exist today, but there are many such examples of cost and benefit sharing in passenger transportation such as MBTA service to Rhode Island. (Snyder)

54. What is meant by facilitating interlining agreements? Does it refer to situations where more than one railroad has rights to use a line, or where freight traffic travels over more than one railroad and experiences interface problems?

    Both.

55. The Plan should include a mechanism to monitor proposed laws and regulations which might impact railroad operations. (Snyder)

    Agreed. This should be added to the possible functions of the Alliance. See text.

56. The reference to "fiscal prudence" in regard to regional rail connectivity should apply more generally to all proposed actions. (Malcolm Davis, Greg Elevich, Phil Shutt/ Massachusetts Advisory Committee (MAC)

    Agreed. See text.

57. The report should not be silent on the proposed North Station to South Station rail connection. (MAC)

    See #3.

58. The emphasis on rail freight should not mean curtailing passenger rail service in busy corridors such as the Amtrak Shoreline route. (MAC)

    It is recognized that multiple rail operations on the same facility present an operational challenge; nothing in the Plan is intended to imply a preference for freight over passenger service in corridors where both coexist today or might coexist in the future.

59. Tiltrotor aircraft technology should have been considered in the study. (David C. Soule/Metropolitan Area Planning Council)

    See #6.

60. The distinctions between the LEV and Alternatively Fueled Vehicle programs should be clarified. (Soule)

    These are intended to be two distinct initiatives. The Low Emitting Vehicle (LEV) program is intended to promote the introduction of vehicles which emit lower levels of ozone precursor chemicals; these vehicles may be powered by gasoline or alternative fuels. The Alternatively Fueled Vehicle Program is intended to reduce gasoline consumption by promoting the use of non-gasoline powered vehicles; these vehicles may or may not also be low emitting.

61. The report should acknowledge the growing interest in the use of abandoned rail lines for bicycle paths and should state that the option of rails-with-trails should be explored. (Soule)

    Agreed.

62. The financial analysis of the three scenarios included in the Draft Analysis Report should reassign the costs of the North Station to South Station rail connector as follows: $60 million for engineering studies and $1.8 billion for the construction of the connector to Scenario 1; and $2.2 billion for related MBTA commuter rail improvements to Scenario 3. (Representative Hasty Evans/Wayland, MA)

    The financial analysis referenced in the letter was not included in either the Final Analysis Report or the NETI Final Report due to its highly speculative nature. The material presented in the Draft Analysis Report remains "as is." In response to the comment, it is agreed that the $60 million for engineering studies should have appeared in Scenario 1 since it is underway, and the $2.2 billion for related commuter rail improvements should have appeared in Scenario 3. However, we disagree that the $1.8 billion cost of the connector should have appeared in Scenario 1 instead of Scenario 2. Only projects which are approved or are in an advanced state of environmental review were included in Scenario 1 – for all modes. The rail connector has not even begun the environmental review process.

63. The statement regarding fiscal prudence should be applied to the entire Plan of Cooperation. (Evans)

    See #56.

64. The North Station to South Station rail connector should be explicitly referenced. (Evans)

    See #3.

65. The North Station to South Station rail connector should be endorsed. (Lawrence T. Fay/Citizens Transportation Action Committee)

    See #3.

66. The Plan ignores environmental protection in favor of "business as usual; more cars, further disinvestment in cities, and sprawl as the roadmap for the future." (Alison Walsh/Save the Bay)

    The Plan endorses major regional environmental initiatives including LEVs and Alternatively Fueled Vehicles, Travel Demand Management (TDM) and growth management planning, telecommunications, and rail and bus-oriented projects. It places particular emphasis on the need to target transportation investment to areas which can be efficiently served – of which cities are a prime example – and to avoid sprawl development.

67. The Freight Alliance is a "sanctioned lobbying conglomerate {which} represents more roads, twin trailers, and a 'just in time delivery policy' we cannot endorse. (Walsh)

    The thrust of the Alliance is the development of intermodal freight strategies which would promote the most efficient means of freight movement and lessen the region's dependence on a single mode for freight movement. Save the Bay and other advocacy organizations are welcome to monitor the activities of the Alliance.

68. The Plan is overreliant on technologies such as ITS which are designed to "squeeze more cars onto existing highways," as opposed to preserving capacity via parking caps, transit funding, congestion pricing, and ridesharing programs. (Walsh)

    The Plan endorses specific transit actions such as commuter rail which have regional significance; it specifically endorses congestion pricing demonstrations; and endorses Travel Demand Management (TDM) strategies which include ridesharing.

69. The Plan's emphasis on providing rental cars at bus and train stations is not good news for quaint, narrow, coastal communities. (Walsh)

    The Plan does not emphasize this point but merely mentions it as one possible element of the Tourism Transportation initiative. If a person chooses to drive to a tourist destination instead of taking a train because it's not convenient to rent a car at the terminal, providing this service will not increase the number of cars at the destination – it will merely substitute a rental car for a private car. In doing so, it will have eliminated the private car trip which would have taken place on the regional highway system and shifted that trip to rail (or another mode).

70. The Plan's focus on "activity centers" is anti-city. (Walsh)

    Cities are one type of activity center and the term is intended to be so interpreted; the text has been duly clarified on this point. However, it is not productive to pretend that high levels of economic activity do not now take place outside traditional urban core areas. While many traditional center cities remain vibrant "activity centers" and others aspire to regain this status, it is not realistic to imagine that we can recreate the 19th century city as the center of all economic activity. The need for agglomerations of all economic activity in close physical proximity no longer exists due to a technological revolution which cannot be undone. Massive numbers of people no longer live or work in this environment due to decisions (right or wrong) made over decades. Should these people be abandoned to their fate? Should transportation policy try to recreate the 19th century or anticipate and help to shape the 21st?

71. At the end of the Rhode Island Advisory Committee meeting, the last idea expressed was "So what if there are more cars on the roads as long as they are cleaner burning."

    Unfortunately, we were not allowed to complete this thought at the meeting in question. Automobiles should not be opposed on general principles but rather public policy should aim to mitigate their impacts. Autos provide highly efficient point to point service which is valued by millions of Americans. The problem with them is that

there are too many in certain places at certain times, and they cause externalities such as air pollution, energy consumption, and land and water resource consumption for highways. The Plan of Cooperation tries to address the problems caused by automobiles by endorsing alternative modes where appropriate; a limited number of highway expansion projects where they can relieve congestion on major regional routes; ITS projects which permit more efficient operation on existing infrastructure thereby reducing the need to construct new highway facilities; demand and growth management policies which will reduce the frequency, length, and peaking characteristics of travel; and cleaner and more energy efficient vehicles. The authors of the Plan believe this is far from an auto-oriented "business as usual approach"; but the author of the letter is correct in that it is not, nor is it intended to be, anti-automobile.

72. Government intervention in the economy is basically wrong and ineffective, and therefore Scenarios 2 and 3 will fail and should not be attempted. (Martin Toyen/ Seaworthy Systems Inc., Essex/CT)

    For most of this century, the U.S. and the other major western democracies have had capitalist systems with varying degrees of government intervention. These systems have produced both the highest levels of individual freedom and economic progress in human history. There is a clear difference in the approaches of Scenarios 2 and 3 with Scenario 2 focusing on government as a partner with business providing incentives for certain types of actions, and Scenario 3 placing more emphasis on government mandates. If, as the author of the letter asserts, businesses only respond to crises or profit motives, should government undertake no actions to solve societal problems some of which, like air quality, directly impact the population's health and well-being?

73. Inner cities are crumbling so why bother to provide transportation services? (Toyen)

    This is the inverse of comment #70. Many New England cities remain vibrant "activity centers." Some of these, like Boston, appeared to be crumbling a generation ago but rebounded partly due to government infrastructure investment. Cities remain the most efficient form of societal organization to serve by public transportation systems due to the high density of destinations. Finally, should the millions of people who still live in our cities be abandoned to their fate?

74. More visibility and emphasis should be provided to the North Station to South Station rail connector. (Tom Greenman/Wilton, NH)

    See #3.

75. Add safety and security to topics not addressed. (Alan Chachich/Arlington, MA)

    Agreed. See text.

76. The report proposes to solve the passenger congestion problem by means of expanding highway capacity. A multimodal system must be available and the goal should be to reduce VMT. (Maria Mack/Wakefield, RI)

The Plan specifically endorses a multi-modal approach of which highway travel will remain a key mode. We do not believe that a goal of reducing VMT (as opposed to the goal of reducing the growth rate of VMT) is consistent with the goal of enhancing economic vitality; and that major environmental goals such as cleaner air can be achieved by reducing the growth rate of VMT.

77. Minimizing travel demand growth can only be achieved by good growth management planning. (Mack)

    The Plan specifically endorses this strategy.

78. Linear propulsion technology for all speed ranges should be referenced. (Romin Koebel/MA Advisory Committee)

    This issue was not raised during the course of the study and so cannot be referenced in the text. It will be referred to in subsequent NETI activities.

Appendix H. Comments on Plan of Cooperation

BROTHERHOOD OF LOCOMOTIVE ENGINEERS
Massachusetts State Legislative Board
(413) 498-5615

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Terry Martin
Vice Chairman

To: NETI Policy Committee Members, et.al.

From: Walter H. Nutter, Secretary-Treasurer

Date: 22 January 1995

Re: Draft: Transportation Plan of Cooperation

As a member of the NETI Massachusetts Advisory Committee, I attended most of the meetings early on in the process. Due to schedule conflicts, I have been unable to attend the meetings for some time. I have, however, followed the progression of the NETI project with great interest. Although I have some grave concerns regarding this plan of cooperation, I still believe that this approach represents a tremendous opportunity for the six small New England states to act in concert for the mutual benefit of all. My comments follow.

It has been said that those who cannot learn from history are doomed to repeat it. Sadly, the NETI authors apparently failed to learn even from history that occurred a scant twenty years ago. Have we already forgotten the energy crisis of the mid-seventies? Waiting in line for gasoline by the hour? The advent of the fifty-five miles-per-hour national speed limit? People forced to choose between buying oil to heat their homes or buying groceries to feed their children? Do the authors actually believe that it cannot or will not happen again?

The automobile is a dinosaur, or at the very least is fast becoming one. The sooner we accept that fact the sooner we can get on with the process of finding alternatives. The LEV and the electric car are still largely sci-fi. Yet the authors cling stubbornly to the concept of personal transportation: Add lanes to Route 128/95; add lanes to Route I-93; add lanes to New Hampshire's Route 3 and F. E. Everett Turnpike; add capacity to I-95; etc. Suggestions such as these, should they become reality, will only cause the travelling public to shun public transportation in favor of the convenience of the automobile cruising along on uncrowded freeways.

(1)

Even though passenger rail is currently the fastest growing form of mass transit in the US, little attention was given to it in the NETI Plan of Cooperation. Passenger rail uses a fraction of the energy and emits a fraction of the emissions relative to autos. It

(2)

is also far safer to travel by rail than by car. Yet Route I-95 and other routes are discussed as if there was no alternative to bigger and better roads.

Perhaps the single most efficient project, in terms of moving the most people with the least impact on the environment, was completely ignored in the final draft. The proposed (elsewhere) rail link between North Station and South Station has the potential to render moot any expansion of I-95 - which by the NETI study's own findings is the "top regional priority travel corridor for New England." With continuous and frequent service between Washington, DC and Portland (or Brunswick) Maine the number of auto trips on I-95 would be dramatically reduced. Likewise, a rail extension from Lowell, Massachusetts to Nashua, Manchester or Concord, New Hampshire would end the need for greater capacity on I-93, Route 3 and the F. E. Everett Turnpike.

Together these two projects would alleviate the pressure on Logan Airport as a great many travellers would simply travel *through* Boston rather than driving to Logan and flying from there. These projects have the further advantage of having a much smaller impact in terms of land use, indeed the bulk of the above proposals would require almost no land-taking whatsoever.

I concede that passenger rail is not the single answer to all transportation congestion. It is, however, the best solution in many, many instances. The fact is that in situations where there are thousands of daily single-occupant travellers taking the same roads from point A to point B, passenger rail can do it better and safer, and for less money.

We need the vision and the political will and commitment from our government leaders to accomplish such goals, as well as the courage to take the path less travelled. It will make all the difference.

U.S. Department
of Transportation
**Federal Aviation
Administration**

New England Region

12 New England Executive Park
Burlington, MA 01803-5299

January 27, 1995

Marc Cutler, Project Manager
Cambridge Systematics
150 Cambridge Park Dr., Suite 4000
Cambridge, MA 02140

Dear Mr. Cutler:

Comments on Draft Transportation Plan of Cooperation

Thank you for this opportunity to comment on the Draft Plan of Cooperation for the New England Transportation Initiative. Having participated in the early discussions for formulating the scope and concept of this effort, I believe this draft product represents the right response to the question of "what should be the major product of this study?" Congratulations on this significant achievement in this ground-breaking effort.

The following comments are suggestions for further refinements:

- Recommendation Number 2, beginning on p. ES-2, should include a recommendation for increasing the airside capacity of Logan airport in order to be consistent with the Massachusetts Strategic Assessment Report. The decision not to pursue a second major airport requires accomplishing an increase in Logan's airside capacity. The distribution of air services to other airports is a complimentary policy but cannot by itself meet the region's needs, according to current analysis. (4)

- On page ES-3, modify recommendation on Travel Demand Management to qualify this policy as applicable only where land use densities and patterns make TDM alternatives to be both practical and significant in their impacts. (5)

- The recommendation on tourism lead me to consider other special transportation markets. Although tiltrotor technology may not be commercially viable until the end of the next decade, existing helicopter technology provides an important alternative mode for short range trips which are time critical, especially in congested corridors. I would recommend the development of private and public vertiports and state zoning to provide siting standards for such facilities. Fostering the provision of such facilities could be an important (6)

ingredient to attracting future economic development. Medical emergency services would also be enhanced. These can often be integrated with other facilities such as intermodal, remote terminals for Logan. The pursuit of a regional policy on this issue may help generate sufficient markets to support scheduled and on demand charter services.

(7) ➪ Under *Regional Airport Planning,* p. 2-7, you state 'Additional abandoned military airfields are likely to become available in the coming years." Please clarify the implication of this observation.

(8) ➪ Under immediate next steps for implementation, p. 3-2, you should consider a recommendation to encourage modal organizations to confer on a regional basis to identify further opportunities for a program of cooperation. An example of this is the New England Air Service study which is bringing together the six state aviation agencies, the major airports, and the business community in an examination of how scheduled air service could be enhanced across the region.

Sincerely,

Ralph M. Nicosia-Rusin

Ralph M. Nicosia-Rusin
Airport Capacity Program Manager

CLF Conservation Law Foundation

February 2, 1995

Marc Cutler, Vice President
Cambridge Systematics, Inc.
150 Cambridge Park Drive
Cambridge, Massachusetts 02140

Dear Mr. Cutler:

As you know from our meeting last Thursday, the Conservation Law Foundation ("CLF") has reviewed the draft "Transportation Plan of Cooperation" for the New England states. While CLF strongly supports some of the draft Plan's components, we disagree fundamentally with the recommendation that roadway capacity expansion projects would achieve the plan's purpose of "enhancing 1) mobility and access for persons and goods; 2) environmental quality; and 3) economic vitality." (draft Plan, p. ES-1). We are also deeply concerned about the absence of a specific action plan for passenger transportation, especially passenger rail. These comments are explained more fully below. CLF urges that the draft Plan's recommendations regarding highway expansion and passenger rail be modified, so that it is consistent with the NETI study's previous findings and recommendations.

In its comments on the draft "Transportation Alternative Scenarios Analysis," CLF expressed (and described the reasons for) its strong support of congestion pricing. (See CLF comments dated November 18, 1994, pp. 3-4). We are, therefore, pleased that the draft Plan recommends that "New England states . . . develop one or more interstate [congestion pricing] projects oriented toward the urban commuter and seasonal recreational travel markets" (draft Plan, p. 2-9), and urge prompt implementation of this recommendation. Any additional revenue, however, should under no circumstances be dedicated to capacity expansion (see draft Plan, p. 2-9), because such a policy would aggravate the very problem, congestion, that instituting a pricing structure is designed to alleviate.[1]

(9)

The draft Plan's recommendation to implement congestion

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[1] If the funds are to be dedicated, they could be dedicated instead to maintenance only and/or to transit improvements in the same corridor.

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pricing, which CLF supports, and its approval of capacity expansion projects for Route 128, Route 3, the F.E. Everett Turnpike, I-93 south of New Hampshire, I-293, and I-84 between I-691 and Waterbury are inconsistent. The National Research Council's recent report, "Curbing Gridlock: Peak Period Fees to Relieve Traffic Congestion" concurred with the conclusion of many observers that:

> With travel demand far outpacing the provision of highway capacity, there is little prospect that congestion will be eased simply by building new highways or transit systems. After billions have been spent on new highways and transit systems during the last two decades, it has become clear to many that America's metropolitan areas cannot build their way out of congestion.
>
> Transportation policy is increasingly focused on managing the demand for transportation to alleviate adding capacity on new highways for use by solo drivers. Demand management measures include efforts to encourage ridesharing, telecommuting, walking and using transit.

p. 1 (emphasis added).[2] Endorsing states' proposals to invest additional millions of dollars in add-a-lane projects, which ultimately will only result in congestion involving more vehicles, will not serve the region's interest in improving access and mobility. Accordingly, CLF recommends that these projects not be included in the draft Plan of cooperation.[3]

(10)

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[2] National Research Council, Curbing Gridlock: Peak Period Fees to Relieve Congestion, (Volume 1) (1994).

[3] The possibility that some of the additional lanes would be designated as High Occupancy Vehicle ("HOV") lanes does not change our conclusion. See The Chesapeake Bay Foundation, Re-thinking HOV: High Occupancy Vehicle Facilities and the Public Interest (1994)(concluding that new HOV lane construction, as now being planned and implemented, is simply increasing roadway space devoted to the automobile and recommending a new approach to HOV planning).

CLF applauds the draft Plan's recommendation to launch a regional tourism initiative. The Plan accurately notes that "[t]he tourism industry represents one of the most vibrant sectors of the New England economy. . . . It is uniquely transportation dependent - requiring effective connections with the rest of the nation and foreign markets, internal movements around New England, and local mobility at the final destination." (draft Plan, p. 2-9). The proposed elements of the proposed initiative (together with the section on passenger transportation), however, neglect passenger rail as an option for improving travel opportunities around the region by means other than automobile.

(11) The Policy Committee selected scenario two for expanding passenger rail. (draft Plan, p. ES-2). To achieve that scenario, which was also recommended by the consultants and described in the "Transportation Alternative Scenarios Analysis," (Analysis, p. 4-3), the states would have to commit to a specific and broader action plan; the proposal for studies in the draft Plan (draft Plan, p. 2-7) is insufficient. Consistent with our comments on the selection of scenario two for expanding passenger rail (CLF comments dated November 18, p. 2), we continue to recommend that the states make a <u>firm</u> commitment to investigating, where necessary, and then rapidly implementing, where feasible, the following passenger rail projects included in scenario 2: restoration of commuter/regional rail service between Concord/Nashua and Boston; inauguration of a recreational/tourist rail system in Vermont; extension of regional rail service north of Portland; and opening of the Concord to White River Junction rail line for Boston to Montreal service. (Analysis, p. 4-3). We also actively support the construction of the Central Artery Rail Link and enhancement of the Inland route Amtrak service which are also included in the scenario. If the states are serious about alleviating congestion and improving travel opportunities and connections in the region, they need to explore in depth the viability of a comprehensive regional passenger rail system.

(12) The draft Plan correctly recognizes the importance of regional cooperation on freight issues and proposes the creation of a regional freight alliance. It should accord similar importance to passenger transportation through the creation of a passenger transportation alliance. The alliance, like the freight alliance for freight transportation, would develop and

implement an intermodal regional passenger investment strategy. It should also work closely with the freight alliance to avoid, for example, the conflicts that have occurred in the past between passenger and freight rail. As outlined in the draft Plan, options for passenger travel in New England will continue to be limited almost exclusively to automobiles. This outcome would be inconsistent with both the goals of NETI and the recommendations selected from the "Transportation Alternative Scenarios Analysis."

Thank you for your consideration of these comments.

Sincerely,

Veronika Thiebach

Veronika Thiebach
Staff Attorney

cc: Sonia Hamel, EOEA
Dennis Coffey, EOTC
Susan Hamilton, CTAC
Heidi Roddis, MA Audubon Society

January 28, 1995

New England Transportation Initiative
% John Robinson
Massachusetts EOTC
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Boston, MA 02116

FAX 617-523-6454

Dear NETI,

ASERT is pleased to have the opportunity to comment on your *Draft Plan of Cooperation*. You have accomplished a great deal in only one and one-half years and you are to be congratulated. We recommend to the **New England Governors** that they confirm their support for your work and extend the cooperative momentum for further studies.

Your stated goal of pursuing strategies which are "predominantly oriented toward minimizing "Vehicle Miles Traveled" (VMT) growth in congested areas" is a challenging task given the growth pressures forecasted for these corridors. We predict the following:

(13) **Point 1:** Without mandatory coordination between transportation infrastructure development and city/town planning and tax sharing, VMT will continue to increase.

(14) **Point 2:** That until transportation funding is <u>modal-neutral</u>, highway and aviation expansion will dominate the system.

(15) **Point 3:** That until we challenge government and private industries to provide solutions to technological gaps in transportation technologies for mass transit, the status-quo will be the predominant recipient of public monies.

<u>Passenger Transportation</u>

Highway Expansion

NETI acquiesces easily to accommodating future demand by supporting highway infrastructure expansion. If we do not address the challenges offered in **ASERT's Points 1-3** then predominantly highway expansion and minimally rail expansion will be funded to resolve system inadequacies. **NETI** is also aware that widening roads will not minimize VMT traveled, but will, in fact, stimulate more traffic. Other strategies such as "Travel Demand Management" are unproven and would only

decrease peak hour demand for probably a limited time period.

Consequently, without more potent tools at their disposal, NETI participants support regional lobbying to secure Federal funding for the highway expansion projects such as I-95, I-93, Route 3, etc.

Example 1: The Maine Turnpike. Maine voters rejected highway expansion with the anticipation that rail access to Boston will prove to be environmentally friendly additions to capacity. Perhaps, too, the Maine voters considered that congestion itself may be the stimulus to develop other alternatives, not presently obvious or available. (Point 3, above) Their challenges could prove to be our opportunity to look for solutions. Consider:

> Marketing strategies for rail such as advertising, rate reduction schedules during prime travel times, vacation packages and inexpensive rental cars at rail terminals could be programed as important accessories to draw maximum passengers.

(I am constantly reminded how important marketing is when I find that even though so many of my acquaintances have knowledge of *MassPort's Logan Express*, they continue to drive into Logan. Their perception of bus service recalls substandard transportation where you must endure blue gum stuck to the soles of your shoes and the stench of green cigars. *MassPort* markets the *Logan Express* with creative gusto, but another level of effort seems to be required to entice first-time riders with middle-class prejudice.)

Example 2: Further examination may be required. One can't help but wonder if we know enough about the trip patterns of commuters on the major corridors before we categorically decide that only highway expansion can accommodate the traffic. (New York State just completed a study along the Mass Pike and determined that something like 9,000 out of 15,000 survey respondents might use a high speed ground system within their study region between Albany and Boston. These sort of studies give us more understanding about the flow of traffic and possible alternatives to highway expansion.)

Example 3: Core Work-Centers may provide opportunities. A sketchy pattern of Route 3 traffic originating from New Hampshire cities with

destinations to **Core Work-Centers** in Massachusetts has been developed. As I recall, three or four major points are the destinations for a fairly large percentage of commuters: Cambridge, Boston, Burlington and Waltham.
Have we taken the next steps:
*Identify the places of employment
*Interview the corporations to determine their possible interest in a pilot bus program to Alewife or offices, as appropriate.
*Challenge industries to provide new technologies.

Rail Development

We are pleased that you are supportive of the three-hour rail service between Boston and New York City. We expect to see some reduction of the commuter planes servicing New York presently crowding Logan. We are concerned that your carefully chosen words "support the concept" of the North-South Station Rail Link and "attempt to develop a common approach to achieving this goal in a fiscally prudent manner" do not sound like a robust endorsement of the Rail Link project. We must surmise that your concerns revolve around some or all three of the following:

i. The Central Artery Project with Rail Link may take Federal Dollars away from highway expansion projects in other states, or
ii. You may be less sure that the Rail Link expense will be justified by the ridership
and,
iii. You would rather find a cheaper alternative to join the stations together.

As to i, with or without the Central Artery, Federal highway dollars are very likely heading "South", particularly since population growth in New England will be less then the "growth centers" of the South and Mid-West. Accordingly, our population densities mandate that we may be uniquely served by high speed ground transportation. Although we can understand that other States may look upon the Rail Link as more money swallowed by the Central Artery project, a cogent argument can be advanced that success of their rail lines rely upon, in good part, the viability of the Boston routes, much improved by the addition of the Rail Link. Just as the New York to Albany line is unlikely to receive Federal construction grants without including the large numbers of potential passengers between Boston and New York, states north of us will likely benefit from the direct rail link through Boston. Good rail options will differentiate us from the rest of the car-bound nation, thus further strengthening our regional tourist assets as "old" New England.

As to ii, riders will eventually use a good system. After all, 40% of the high speed passengers (air and rail)

between New York and Washington, DC use the AMTRAK metroliner service. Furthermore, we are just beginning to understand the ancillary costs that we pay due to crowded highways. Air pollution and highway deaths and injuries have not been acknowledged in normal accounting procedures. We must assess the true cost of highways and air service to the consumer. We must break down the modal barriers allowing rail to share in the transportation pot of gasolene taxes, passenger fees, etc., according to the merit of each project (Point 2).

As regards iii, it's always easy to dream up routes that one surmises are cheaper than another. However, the reality is that no one has proven that the other alternatives are cheaper, better routed and indeed, even possible to accomplish or schedule to ensure completion.

Regional Airport Planning

We are pleased to see the interest in sharing passengers amongst New England's airports. We would hope to see a solid study as you indicated, a "less Logan-centric", plan developed. Such a plan might include high speed rail connectors. As you are aware the New York-Mass Pike Study includes that "M" word, "maglev". Assuming that such a system could be built (or even tilt-trains) with connections to Logan, Manchester, Green, Worcester, Bradley and New York, efficient intermodal transportation would be evident by the rapid replacement of short and medium-haul air flights with rail. The Massachusetts Legislature approved a $500,000 maglev study to complete the exemplary work begun by New York along the Mass Pike. Let's spend it wisely by including airport connections in the proposed alternative routes.

Growth Management Planning

We are pleased that **NETI** recognizes the importance of targeting transportation investment to activity centers. However, we are concerned that such infrastructure appears to be dominated by more highway development. It is refreshing that you note that automobile travel receives the benefit of the lowest cost of gasoline in the world. "Off-line" costs, such as insurance, car payments (often two or more cars per family), medical expenses or loss of family members in accidents, are borne with seemingly stoical nescience. Is this due to ignorance or is it because we have no other available alternative? Has the "overwhelming public response to the increasing congestion levels brought about by the VMT growth" been peak period adjustments rather than modal shifts for any other reason but that we have under-invested in rail development?

> **Growth Management:** The Lincoln Institute of Land Policy has an applicable article on "Linking Land Use and Transportation Under Growth Management "in the January, 1995 issue of *LandLines*. In order to maximize rail development in place of highway development, we must

development in place of highway development. We must

achieve residential and commercial mix densities achievable only by special zones. If we are to contain sprawl, we must recognize that communities that desire growth and receive infrastructure improvements, courtesy of other taxpayers, should share their good fortune with communities who do not grow, ie **Point 1**, above.

Tax Structure: To continue this radical thinking, we can look at other ideas offered by the *Institute* regarding land development. One interesting idea to increase the rate of land development and decrease long-term speculation on land in cities or growth centers is to tax empty land at a higher rate than developed land; in fact, the idea is to tax land only. This concept has some merit for increasing the rate of development of the many areas in Boston that suffer from under-investment and over-speculation. Such a system would **not** be desirable for those regions where slower growth is preferred. In fact, we may tax improvements only in areas where we desire less growth. A change in tax structure, along with infrastructure targeting and tax sharing, could significantly slow down sprawl, dramatically offer incentives to improve our cities and markedly increase rail ridership.

Freight Transportation

We are supportive of freight rail as it will improve our economy, but we do not support creating a special task force for freight that does not also represent passenger rail. We realize that there are liability issues that must be worked out by rail promoters. We believe that a *New England Intermodal Rail Alliance* that includes both passenger and freight is the best forum to resolve these problems.

The Future of NETI

We believe that **NETI** must examine the larger, institutional challenges of our three "**Points**" if we are to see real progressive change in our transportation agenda. Addressing these "**Points**" will open **NETI** participants to new avenues of thinking about why and to whom they should provide transportation services. Responding to **Point 3** could open us to a new world of transportation. Please allow me to give you a much earlier example of how **Point 3** was used by the English Parliament to solve an essential transportation problem.

Example 4: A Competition that Changed the World
Throughout recorded history we learn of men being

lost at sea in devastating storms that sunk their ships or crashed them upon ledges. However, many men died because we did not process the knowledge to determine longitudinal position precisely enough to avoid significant and deadly miscalculations.

Finally, after the loss of a heroic and favorite English captain and his seaman on the rocks of Scilly Islands, only forty miles offshore, the Parliament in 1714 passed an act "For providing a Publick Reward for such Person or Persons as shall discover the Longitude at Sea". The *Board of Longitude* offered money to support promising experiments and another large award of money for solving the problem. An unknown man, son of a carpenter, familiar with the earlier work of Robert Hooke, "the use of springs instead of Gravity for the making of a Body vibrate in any Posture", won the prize by developing essentially a clock that lost only five seconds, or about 1.25 minutes of longitude, in government trials. Since it was easier for Captains to buy cheap clocks than to find mathematically educated sailors, the device replaced astronomical calculations and saved many lives.

This example can be compared with a more recent competition for the development of magnetic levitation trains. Instead of identifying the problems that needed to be solved and asking private industries to respond with as much creativity as possible, the Government regulated the competition to the extent that the result was a system that provided system flexibility, but was frightfully expensive. Consequently, maglev was immediately ridiculed and has since lost most of the momentum for development. The point is that we must implement proven technologies to lessen our present problems but, we need new ideas and new technologies. Maglev may or may not be the right technology, but until we challenge ourselves to find better solutions, we will continue to use too much gasoline to the detriment of our national balance of trade payments, experience excessive congestion and pollution and lose the beauty and uniqueness of "old" New England.

Sincerely,

Nancy W. Reed

Massachusetts Audubon Society

208 South Great Road
Lincoln, Massachusetts 01773
(617) 259-9500

February 3, 1995

Charles Repeta, Project Manager
New England Transportation Initiative
Executive Office of Transportation and Construction
10 Park Plaza
Boston, MA 02116

VIA FAX # 617-523-6454 followed by U.S. Mail

Dear Mr. Repeta:

On behalf of the Massachusetts Audubon Society; I submit the following comments on the Draft Transportation Plan of Cooperation prepared as part of the New England Transportation Initiative (NETI).

The Massachusetts Audubon is a voluntary association of people, representing 54,000 households members, and dedicated to preserving the biological diversity and water resources of the commonwealth. The Society's comments on the NETI Plan of Cooperation focus on the effects of transportation policy upon land use and environmental quality.

General Comments

Since NETI was initiated in 1993, the Society has supported the concept of an integrated approach to transportation policy and planning for the entire New England region. Many of the transportation and land use challenges in the next century will require this kind of cooperative interstate approach. Massachusetts Audubon hopes that the Plan of Cooperation will not be an end point, but rather the beginning of ongoing collaborative planning for New England's transportation systems. The Intermodal Transportation Efficiency Act of 1991 (ISTEA) recognized that continuing reliance on single-mode transportation planning was environmentally and economically harmful. The NETI Plan offers hope that New England can benefit from innovative, cooperative approaches on the regional level.

Specific Comments

"Activity Centers": The Plan of Cooperation calls for "activity centers" to receive higher priority for transportation improvements. The Plan mentions office/industrial parks and malls as examples of activity centers. To reduce sprawl and reliance upon the automobile, transportation improvements should also be targeted to improve transit services in and around urban core areas. Highway expansion is not a solution to congestion. The focus should be on demand management and alternatives to automobile travel. (16)

Water Resources: The scope of work to date on NETI has not included water resources. Transportation projects have significant impacts upon water resources. Highways contribute enormous quantities of stormwater runoff, erosion, and sedimentation to waterways and wetlands. Due to the linear nature of transportation infrastructure, roads and railroads cross and divide wetlands and waterways. The Society urges that as NETI moves into the next phase, a coordinated mechanism be established to address water resource issues associated with transportation. Individual states and agencies could benefit from sharing of experiences and ideas for improving the interaction between transportation and water resources. For example, if an agency has had success in upgrading its stormwater management systems while reconstructing highways, or in designing bridges that reduce impacts on wildlife habitat and floodplains at water crossings, other agencies and states can benefit from sharing this information. Several agencies may want to develop a set of pilot projects in a cooperative regional effort to identify environmentally effective and economically efficient approaches to water resources protection and improvement. (17)

North-South Rail Link: The North-South Station Rail Link is a vitally important project that combines good environmental policy with economic benefits. The project will provide benefits to other New England states as well as Massachusetts. This Rail Link will allow trains to travel from points north throughout the Northeast Corridor. It will help boost economic activity in existing urban cores while helping to reduce development sprawl in outlying areas. The effect of the Rail Link on land use patterns throughout eastern Massachusetts and beyond has significant positive implications for conservation of biological resources, and protection of water and air quality. For this reason, this project is a priority for Massachusetts Audubon and other members of the environmental community. The Plan provides a rather weak endorsement of the Rail Link. The Society urges strong support for this project. Design and construction of the Rail Link must continue to move forward, so that this important alternative to highway travel will be built as one of the intermodal components of the Central Artery project. (18)

Rail Alliance: The Plan of Cooperation calls for formation of a New England Regional Intermodal Freight Alliance. The Society believes that there is a need for a regional strategy for efficient movement of goods. At the same time, railroads are also important to passenger transportation. Rail improvements should be designed to maximize benefits of these investments, while minimizing conflicts between freight and rail use of the same railroad lines. Improved freight rail systems and services should not come at the expense of passenger rail services. To the extent feasible, these two interests should work together. The Society believes (19)

that if a regional intermodal rail transportation planning alliance is formed, it should include representation from the passenger rail community and the companies/agencies that provide passenger rail service.

Conclusion

Massachusetts Audubon generally supports the Plan of Cooperation, although some aspects should be refined to be more consistent with the plan's stated purposes regarding environmental quality and economic vitality. The Society urges that specific mechanisms be established to carry out the various initiatives outlined in the document. Transportation planning in the coming decades must involve regional cooperation, true intermodalism, and more coordination with other aspects of land use planning.

Thank you for considering these comments.

Sincerely,

E. Heidi Roddis

E. Heidi Roddis
Environmental Policy Specialist

cc: His Excellency Governor William F. Weld
Representative Thomas Cahir, Chairman, MA Legislative Joint Transportation Committee
James Kerasiotes, Secretary, MA Exec. Office of Transportation and Construction
Trudy Coxe, Secretary, MA Exec. Office of Environmental Affairs
Mark Cutler, Cambridge Systematics
Conservation Law Foundation
Advocates for a Strong Economy with Responsible Transportation
Citizens Transportation Action Campaign
Save the Bay

VERMONT RAILWAY

SERVING VERMONT INDUSTRY WITH PRIDE

CLARENDON AND PITTSFORD

General Offices
One Railway Lane, Burlington, VT 05401
Telephone (802) 658-2550

January 23, 1995

Mr. Richard Watts
NETI
General Service Center
U.S. Route 2, Middlesex, Drawer 33
Montpelier, VT 05633-7601

RE: Comments on the NETI Proposal

Dear Richard,

(20)

Prior comments were provided to NETI on May 4, 1994 and November 3, 1994. After careful review of the revised NETI documents, we still believe the latest NETI proposal primarily supports highway usage and development and unfortunately, provides little vision to the utilization of rail for passenger service or freight transport. Particularly, the traffic corridors in western side of the State of Vermont.

I recently had the opportunity to read the Conservation Law Foundations comments on the Draft Vermont Long Range State-wide Transportation Plan (attached), which I believe mirrors Vermont's proposed planning vision contribution in the NETI effort. I concur with CLF's comments, particularly in regard to considering alternative rail usage scenarios. The NETI proposal generally views rail alternatives to be valuable, however, they are viewed as long term and not cost effective. Therefore, not worth consideration in the immediate future.

We disagree, attached for your review and comment is a recent analysis, which was requested by and provided to the Vermont State Agency of Transportation for AMTRAK service to the western side of the State. It clearly outlines cost effective scenarios for implementing passenger rail service. I would like to request NETI include this document as an addendum to its final report for public comment.

New England Transportation Initiative

Comments of David O. Jones, Old Lyme, CT , January 31, 1995

The Draft Transportation Plan of Cooperation has some serious problems which I attribute to a lack of specificity, some errors in fact, and a rather light touch to the ability of the rail mode to make a positive contribution to the economic well being of New England. While it is true that New England is and will remain overwhelmingly dependant on the highways for passenger and freight transportation, the inability of the region to grasp what the rail mode has to offer will hamper further progress.

Politics does have its role to play. The opposition of the Governor of Connecticut to the Amtrak electrification project, for example, hopefully will be changed as he comes to a better understanding of the role that Amtrak and the electrification will play in the enhancement of the economy of Connecticut, making it less geographically disadvantaged. The opponents of the electrification have overstated their case, and it is time for moderation.

Dealing with the draft report, page by page:

ES-2. Section 2. On this page there is no mention of rail as having any role to play in the mitigation of passenger traffic congestion.

ES-3. On this page, at the top, the word "rail" seems a mere insert, and sentence would seem to make better sense if the word "rail" were omitted. Rail might better be dealt with by the inclusion of a sentence suggesting that rail commuter developments in the Boston area, between New Haven, Hartford, and Springfield, as well improvements to Metro North and Shore Line East all have a growing role to play in the distribution of people in major metropolitan areas. The Central Artery project linking North and South Station involves a major committment by the Commonwealth of Massachusetts to provide a raillink that has major regional implications, and it should be in an executive summary.. The Amtrak electrification also should be mentioned due to its regional significance.

21

ES-3.3 As to regional tourism, the private sector has been taking care of the tourist trains, and the governments should stay out of except to provide trackage when

22

possible to do so.

ES-3.4 The section on technology deals only withthe highway. What about rail technology. The Amtrak electrification is such a program whether NETI so recognizes or not.

ES-4.5 No one will mistake the intent to make certain that all highway needs are met first..

2.2 (Page) 2.2 The notion that New England is astride the land bridge corridor from Europe to Asia is not correct. If we focus our rail freight efforts on that, we will surely meet with disappointment. Boston to Albany is 200 miles on a mostly single track line full of grades and curves. Newark to Albany is only 140 miles on a double track water level line. If you were a rail operator, which would you give preference to? Baltimore is far closer to Chicago and St.Louis than New York or Boston (indeed, Cleveland) and its one mountain range is not a sufficient deterrent given the mileage advantage. We keep fooling ourselves in New England that we can capture a significant portion of the land bridge traffic.

(23)

2.2 2.3 .1 Who is going to make the investment in the intermodal facilities? What state will raise taxes to do so. When you have Conrail convinced that its double stack traffic should originate elsewhere, what is it the New England states can do to persuade them otherwise? However, failure to get land bridge traffic should not be the end of the world. While other ports have pretty sophisticated equipment and modal cooperation, New England has neither. But the failure to get the land bridge traffic does not mean the end of the world, as the report suggests. It only means that the New England export/import traffic needs to be a bit better thought out. As New England seems to be declining as an industrial area with less need of export facilities, this matter needs to be thought out carefully. Should we make massive investments to lower container traffic for consumer goods going to the Midwest? Do we really et enough by way of jobs to justify it?

2.3 (Page) 2.3.1 Some of the starting paragraphs are PC pie in the sky. We seem to avoid some of the tough issues. If we wantrail freight into and out of New England, wemay need, for example, to arrange for the rebuilding of the Poughkeepsie Bridge, but this is in New York State, and some of the right of way has already been put into highway. But this is the short rail route to the sourheast.

(24)

No mention is made of the fact that we have only onemain line rail link in New

England. Most of the rest of the rails are of secondary importance. Again, over emphasis is given to double stacking. Where is there a single mention of single container on flat car or of piggy back? Yes, piggy back. Boston used to be one of the leading centers of piggy back traffic, and now it is rather marginal. There are (highway) reasons for this, of course. But with companies like UPS , Hunt, and others known to be dedicated users of piggy back (TOFC), why was no attention given to stimulating such traffic in New England with the building of a few TOFC terminals and some new services aimed at providing fast services?

In listing the ports, mention is made of Boston, Davisville, and the port for the Central Vermont. Leaving Boston alone, Davisville is a junction between the Providence and Worcester and Amtrak, not the port, and the port for the Central Vermont is New London. The Central Vermont is now or about to be Rail-Tex with a new name, and the Port of New London is about l00% dead. Davisville, so called, is the great hope of the State of Rhode Island, and they want Amtrak to pay for 22 miles of third main line to accomodate port traffic, which as yet does not exist.

The talk of dredging at any of the three ports is pie in the sky. Maritime sources I have contacted advise that the large most competitive container ships (land bridge types) require 42-45 feet of draft at low tide. To get that at any of the three ports, not only would there have to be dredging, but blasting of rock ledge. As the sediments to be dredged are thought to be polluted, hence dredging not permitted, it should be easy to find out whether any of the port hopes have any merit or are illegal, putting this issue in its proper place once and for all. If you cannot dredge in the polluted areas, then look to some other strategy. Why not single containers from other ships and TOFC? No mention of this.

To talk about securing federal funds in this political climate is quite unrealiistic except for highways. The Republicans have forced the Congressional committes giving out highway funds to be enlarged so that the pork can be handed out more evenly. Right?

2.4 (page) 2.3.1 How do you distribute costs and revenue of freight transportation equitably across New England or any where else? The revenue goes to the hauler. The costs go to the taxpayer. What can be more equitable? Lots of luck in negotiating with New York. What's in it for them? Or Canada. Both will take anything for suitable pay. Problem, from the rail point of view, is that the eastern operations of the Canadian railroads have not exactly been profitable, and such lines as either the Canadian Pacific and Canadian National have in New England, are being downgraded and are up for sale. Buy 'em?

Which raises the question of acquiring railroad rights of way for freight transportation. Why not acquire rights of way for passenger operations?

To standardize truck regulatory policy is laudable enough. Some of us would wish that truck inspection and weight checking would be as universal in the North East as it is in the West. Though reports continue that when open, the weight and inspection stations find that one in ten trucks are unsafe, but inspection stations are only open from time to time. They are no threat to the trucks. Is NETI unconcerned for public safety?

Interlining agreements are the province of Conrail and the ICC, which I believe still has some jurisdiction. From such maneuvering as I have seen, I wonder if this is really a problem. Some of the small railroads are pretty cute in their arrangements.

Operating any facility a state wants can be easy if teh state funds it. Most do not want to fund anything.

A regional data base. The waybill sample already exists for railroads by Congressional mandate. The truck lines will resist. Costs money. Shipper owner trucks will not comply in any case, and they are a very large part of the truck traffic. Laudable as the objective may be, there is no hope for it.

2.6 (Passenger rail)

It is not true that all the New England states support the Northeast Corridor Transportation Plan (NECIP? Northeast Corridor Improvement Program). Governor Rowland of Connecticut went to Southeast Connecticut, heard some of the complaints down there, and he has come out in opposition of the program. Governor Weld is understood to have talked with Governor Rowland last week about this, but whether the Governor of Connecticut will come to the realization that this is a much bigger program with far more implications than he has understood, and voice his support for the program is not clear. He should support it. Electrification will have an important positive effect on the economy of the Boston New York corridor, reducing their geographic disadvaantage. The complaints in the southeast of the state have been orchestrated. Some of the allegations are ill founded.

No mention at all is made of the Central Artery project in Boston, a project into which Massachusetts has put more than 100 times the cost of the NETI study. The idea of linking North and South Stations in Boston has the support of the Governor of Massachusetts, and it should have the support of other Governors as well. The effect

of linking the two terminals and permitting through service could be quite dramatic. The omission of the Central Artery project from this report is a serious omission and one that is not easily understood, given the location of the consultants in the Boston region. It suggests they either do not care or do not know about rail developments or both. Take your pick.

2.7

A request for more studies?

Acquisition of rail properties for possible future passenger use is fine, rights of way need to be preserved. But why particularly if they can have freight use as well. Perhaps we should have the standard of acquiring rail properties for dual use.

The Inland Route study mentioned is a maglev study, Boston, New York via Albany. This is not the time and place to discuss maglev. It is pie in the sky for now.

Boston to Montreal service via White River is, by law, the sole province of Amtrak. They are about to terminate the Montrealer, so talk or another train may be rather premature. No one has come up with a cost figure for rehabilitation of the line, but it is something Amtrak will not pay. No realism in this suggestion.

Expansion of rail service north of Partland is unrealistic when Amtrak does not get to Portland yet. And with the well known financial problems of Amtrak, it would appear that service expansion to Portland is unlikely, especially since Mitchell is no longer in Congress and would have little power it he were.

2.7 Regional airport. It should be mentioned that one of the purposes of the Amtrak electrification is to reduce the New York Boston traffic by air to the point that a second Boston airport will be unneeded. As Amtrak has about 45% of the New York to Washington business now, this would appear to be a very realistic goal, especially if better rail equipment were involved. Amtrak is not much of a player in this market now, but should be if the electrification and reequipment programs come off as planned.

2.8 Market Pricing Demonstrations. The paragraph at the bottom of the page is very good. Praiseworthy. Few people seem to know it, especailly those in southeastern Connecticut.

2.10 2.3.3 Tourist initiative. It might be made a bit more explicit that tourists from overseas, coming into Boston, are rather more apt to be thinking travel by rail than our

own citizens. Unbeknownst to the citizens of southeast Connecticut, rail would be an effective way to get foreign visitors to points like Mystic and Foxwoods, particularly if destinations will prove as willing to go to the rail station to pick up as they are to go to airports, even Providence.

2.10 2.3.4 Technology Applications. Electrification of the Amtrak Line should be included here.

Scenarios by Mode. For policies by Intercity bus,. it is interesting to note just how little was said in the report about intercity bus. Peter Pan is the second largest bus company in the U.S. No indication that they were contacted about anything except to get endorsement for more highways and highway technology. Any ask them if they could be fed and feed by Amtrak, by some of the commuter rails. Note that in New Haven they do not connect with much of anything, but Greyhound does. Why does Peter Pan no longer serve Bradley from the south. The passenger cost diffeerential and inconvenience is considerable. And Bonanza. Also an important and profitable bus company. But they do not serve downtown Providence on a dependable basis, hence connections from Amtrak (points New Rochelle through Kingston) cannot make connections to Cape points. (Though they claim to serve Kennedy Plaza, I know passengers who were taken to North Providence by drivers unwilling to make the "demand" stop.) Again, as to intercity bus, no mention has been made about Greyhound/Vermont Transit and the rather rapid decline os services in areas they serve. Greyhound may not survive. But none of this is reflected or mentioned.

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Under the section labelled "Passenger Rail" , the Boston to Portland service has not been completed and seems to have less than a 50-50 chance at this time.

Under the freight section, rather than double stack, why not suggest some single level containers on flat car, which we can handle, and piggy back. Why not ask for the Poughkeepsie bridge? These are things that might be possible.

Finally, as the airport section suggests that as a major change, there could be a diversion to HSGT (high speed ground transportation) it suggests that they consider the present project to be such. In that case, they should consider the HSGT project under the passenger rail section not to be a major change, but rather a current policy.

David O. Jones
POB 410
Old Lyme, CT 06371-0410

203 434 7441
203 434 2824 (Fax , 24 hrs)

January 24, 1995

Gary W. LaBrake
Chairman of the Connecticut Technical Advisory Committee for the
New England Transportation Initiative, (NETI)
51 High Street
Milford, CT 06460

Commissioner William Burns
Connecticut Department of Transportation
P.O. Box 317546
2800 Berlin Turnpike
Newington, CT. 06131-7546

Dear Commissioner Burns,

As the committee elected chairman to the public/technical advisory committee of Connecticut for The New England Transportation Initiative, I would like to ask that you please take time to review the NETI DRAFT PLAN OF COOPERATION FOR TRANSPORTATION FUTURE OF THE SIX NEW ENGLAND STATES. This proposed plan of cooperation is not perfect. But it does present itself as a way for all of the New England States to benefit through a plan of joint cooperation.

With the congress and all the states looking to cut spending, and trying to get the most for the dollars that they have to spend. The NETI proposals and visions to enhance the mobility and access for the movement of people and goods represent. A real area of potental opportunity for our states future. NETI created through the efforts of the New England Governor's Conference, some four years ago, could still represent one of the few avenues that could result in true and effective regional enhancements to our overburdened transportation systems of the New England States.

As chairman of the public / technical advisory committee for Connecticut I have to relate my concerns over some aspects of the study. Connecticut seems to come up short in the study when compared to the focus towards the states of Massachusetts, Rhode Island and even New Hampshire. Your own agency personnel will confirm this I am sure.

(27)

The other focus of concern that I have is over the continued funding costs for the project. If NETI is to continue someone is going to have to foot the bill, each of the states I presume, can we afford to help fund such future efforts ? Or do even want to ? A concern to many is the proposed New England Regional Intermodal Freight Alliance, this could end up as being a great concept, but costing more than the region could ever hope for, or stand to gain?

I am concerned with the comment that states, what the consultant team directs is a " bold new direction" for transportation planning through its three sets of visions for the future. With the purpose of the study to enhance the mobility of persons and goods, and to promote economic competitiveness. I can't help but

wonder why, when the study consultants advocates adding new or increased taxes, highway tolls, congestion pricing if the consultants or policy committee members truly understand what needs to be done to improve the economic vitality to our region. It seems to me that if a mode of transportation service is paying its own way, why we would ever want to upset that service through increased taxes directed towards that service. To fund direct competition towards a service, or direct increased costs towards that mode or even towards the tax payers of the region for systems that have limited potential is not any way to enhance our regions economic growth. Does this meet the studies objective of promoting innovative and fiscally sound financing policies ? Innovative yes, but fiscally sound planning never ! If you take time to review the draft plan of cooperation I am sure will see what I mean.

(28)

Understanding that the changes advocated in the study would be taking place over the next 20 to 30 years, a time table for the system improvements advocated or priority of actions needs to be developed so that all can better understand the end results of the studies proposed draft plan of cooperation.

In your review of the draft plan of cooperation you will find that their are many true areas of tremendous opportunity. Proposals to standardize truck regulatory policies across the region and Intelligent Transportation Systems proposals are two winners. A real home run would be the creation of an regional alternative fuels infrastructure for CNG, LNG, And LPG Clean fuels. This would help towards meeting the regions clean air goals and help to lower the motor vehicle fuel costs to the users and help to cut our dependance on imported oil or fuels. You, I am sure will see other opportunities that should be investigated further even if NETI does not continue.

My final comment concerns the NETI structure, the Business Roundtable should be folded in with the public advisory committee members and meet together. The idea of separate groups meeting at different times and places hurts the process in a number of ways. The first is that public forums such as this serve to educate all involved as to all the concerns and or needs of all involved. Because the business roundtable never really got fully engaged, in the process they failed in their performance. Only those members named to the business roundtable, who attended the public advisory committee meetings truly understood the process, and problems areas identified by the advisory committee. Very little feed back concerning the business round tables findings was ever presented or returned to the advisory committee, which was mainly because of their lack of involvement in the whole process.

(29)

I wish to convey my thanks to Mr. Richard Hollis, Supervising Planner in your Bureau of Policy and Planning for his excellent work done concerning the NETI project and his staff. If it were not for his and his staffs efforts our state could not have had the amount of public support for the process that it did. Because of

his efforts we truly became the role model for the other New England States. The consultant even held us up as the example for the other states to follow. During the coarse of the study, not even one other state came close in its public involvement efforts. Connecticut enjoyed so much more in the area of well rounded public support and modal involvement than any of the others. The Connecticut Department of Transportation should be proud of this successful project participation effort. It is my hope that this level of involvement will continue in the states own Statewide Intermodal System Study, for which I believe all those involved in the NETI Study will continue to support.

Sincerely,

Gary W. LaBrake,
Director of Member Services
Motor Transport Association of Connecticut.

From The Desk
of
Richard W. Wallace

Wednesday, January 25th, 1995

Mr. Richard Hollis
NETI State Advisor
CT Department of Transportation

Reference:
Letter MAS->RWW 1/4/95, CMAQ, Response to 12/23
Letter RWW->MAS 12/28/94, OXY-FUEL NEWS article ref. NYC cabs
Letter RWW->MAS 12/23/94, CMAQ Comments/suggestions
Letter MAS->RWW 12/19/94, CMAQ Process Map
Letter RWW->MAS 12/15/94, Pedersen contact
Telcon RWW->MAS 12/15/94, Progress?
Application for CMAQ *grants, loans or loan guarantees* RWW->MS 12/2/94
Discussions with MAS at Yankee Gas' Norwalk Station Opening 11/21/94
Letter RWW -> MAS 11/15/94 w/letter of 10/27/94 RW -> E. Kraus, President, Shawmut Bank
Stamford Fill Station Proposal forwarded 10/24/94 via SWRPA

Mr. Hollis,

I received the recent announcement of the NETI meeting planned for January 31st. Unfortunately, I will not be able to attend either Southern- or Northern-Tier States' meeting.

I am *quite concerned*, however, with 2 aspects of the study. I quote from the meeting flyer:

- **develop a regional strategy for creating fueling and servicing infrastructure for AFVs**
- **support a LEV standard which will reduce the level of ozone precursor chemicals**

I would like to ask that you pay close attention to these aspects on the behalf of Connecticut interests, such as the retail CNG station investors I represent. Our points of view are:

• A "regional strategy" is <u>moot</u> if it does not i) work locally, and ii) use what is available locally. The above-referenced steps show that ConnDOT has not been able, to date, to simply allow a locally-proposed program to go forward, accessing a small amount of supposedly-available federal funds. The documentation above sets out well-designed business plans, using private funds, to build local infrastructure, yet the initiative is being frustrated by several government agencies, including DOT. *Think globally – act locally*, right? We see NETI "thinking regionally – without plans, ability, or commitment to act *locally*." Interject local elements for us, please.

30

• The biggest impediment to fueling infrastructure for NGV's is the ignorance of public officials, which is a product of State Fire Marshals and State Fire Regulations being woefully behind the times. NO regional plan needed here. Just tell these officials to actually do their jobs. Result: Most think CNG is dangerous vs gasoline. It is not.

• The fire code for CNG/NGV's was published 8/'92. How many of the NETI states have approved it as of 1/95? How many State Marshals have trained local marshals completely? How many local marshals have informed city/county/town officials. NO regional plan required. Just do the job. Ask NETI consultants if they know. We'd like it publicly known.

• Isn't the OTC already doing the LEV standards/negotiations? Isn't NETI redundant here? What is NETI doing that is NOT redundant with OTC, <u>and</u> will have local CT impact? How can CT – after <u>declining</u> to join the CAAA's Clean Fleet plan and <u>eligibility</u> for CMAQ, vehicle- conversion funds – join its neighbor states in AFV plans? Isn't this an oxymoron?

31

• Look at CT legislative efforts in this area:
A UPS-inspired law (7/94) gives tax breaks <u>only</u> to corporations and fleets of over 9 vehicles.

71 Fairview Avenue, Stamford, CT 06902
Tel: (203) 357-8046 -- Fax: (203) 969-7421 [Voice call required first]

Why shouldn't individuals be given i) the tax benefit and ii) the encouragement to put their private funds into this much needed area of investment? What's the difference between a fleet of 9 and one of 11? This legislation was done *without* consulting DEP, I'm told by a reliable top official in DEP. Why? This law encourages CNG in only high-milage vehicles, which DEP says are *not* the ones which produce lots of ozone. Why is this *policy*? Why don't the existing, in-state parts of government work together? NO regional ...

A proposed law would require CNG at all gasoline stations on state/city land (turnpikes).
This is nice, but nutty. Fleets do not generally run along the parkways, especially the Merritt. *Private commuter car owners* can not benefit from the tax aspects [see above], so they will not convert, even if they drive the Merritt twice a day, every day. It takes both convenience and tax goodies to rationalize the $4,000/car conversion cost. Here is a policy co-ordination problem, *but in-state.* NO regional...

Mobil is the franchise holder at many of I-95's stations. If you have ever read Mobil's print ads/info-mercials, you will know that they are lobbying as hard as they can *against* CNG... and *for* RFG. A law which forces them to do it will only assure that it is done very poorly, so as to waive-off all potential customers. I worked for "Big Oil". This is the way they do. They have refinery investments to protect. They have existing contracts to stand on. Give them the freedom to try and protect their assets. They are confounded enough, without adding this bit.

Also, utility gas lines are, more-often-than-not, NOT near these plaza sites. Let those who are willing and able to work with all aspects of the biz, do the biz. One needs to co-ordinate utilities, many vehicle converters, multiple fleet managers, station investors, etc. Big Oil is not able to do this. Ergo: that is why it has not happened yet – Right?

Policy recommendations then:
- *Let those who offer to do this infrastructure building, locally, do it. "Technical standardization" is not a problem.*
- *Help those who offer to do it locally, really do it. City, state and federal interests should help locals.*
- *Do not try to drag those who are structurally- and economically-opposed to it, into it.*

Implication 1): Kiss all gasoline refiners and independent-gasoline-marketers goodby. [Except Amoco]
Implication 2): Because NEW parties are coming forward to do this, officials must work with companies whose names they have not heard of before: Officials must resist the urge to be worried of and inattentive to new names. The real snakes-in-the-grass – that officials should worry about – are as 1) above.

- *Why bother with regional co-ordination when in-state co-ordination is absent? We'd like our ConnDOT people doing the latter before they dedicate manhours to the former, please.*

Cordially,

Richard W. Wallace

CCIA

Connecticut Construction Industries Association, Inc.

" Helping build a better Connecticut "

January 31, 1995

CCIA comments re NETI Transportation Plan of Cooperation

General comment

Connecticut does not fare very well under the plan. Port investment is not slated to occur here, and double-staked freight trains will not enter Connecticut. The plan is ambivalent about mobility. Demand management suppresses it; LEV/ZEVs would seem to make it more palatable. A modal shift for most commuters is planned, but there is no evidence to suggest that they will want to use it. Money is to be invested in intermodal capabilities, and the existing highway system is to be maintained. As it happens, there is not enough money to do either, much less both. There is no discussion of what should be done with existing resources. There seems to be no cost-benefit analysis regarding any of the policy options that were selected.

The language of the plan is that of ISTEA (e.g., "there are tremendous opportunities for enhancing [?] freight transportation throughout the region by developing and implementing a coordinated [?], strategic [?], interstate and intermodal [?] infrastructure investment strategy [?]." (p. 2-1)). What does that really mean?

Specific comments

No.	Page/para. ref	Comment
1.	ES-2,#1 (3.2)	The plan assumes without discussion that government has a role in freight movement. Double-stack access to ports doesn't seem to have much to offer Connecticut.
2.	ES-3, #2 (33)	Travel demand management is nothing more than the repression of mobility. The consequences of repressing mobility should be thoroughly examined before blythely being implemented. Efficient distribution of airline services is a function of where people want to go. Restaurant services would be more efficiently distributed if we forced more people to eat in bad restaurants.

912 SILAS DEANE HIGHWAY, WETHERSFIELD, CT 06109 Phone (203) 529-6855 / FAX (203) 563-0616

No.	Page/para. ref	Comment
3.	ES-3, #4	Fleets were picked for alternatively fueled vehicle application precisely because it would not be necessary to provide service and maintenance facilities for them; fleet owners would do that.
4.	1-1, 5th bullet	What are the "changes in social and work patterns?" How are they to be used to minimize travel demand growth? What is the relationship of VMT to the economy? Does VMT signify economic activity?
5.	2-1, 2.2/1st	Why is resolution of goal conflicts only possible at a regional level? Usually economic growth leads to environmental degradation, according to the "conflicts" in the goals and conventional wisdom.
6.	2-1/2.2/3rd	Transportation policy can't change the fact that we consume but do not produce, which means empty return trips.
7.	2-3/2.3.1	The plan generally argues for a statist freight organization, with little concern about what private tranportation interests want. Government labor relations results argue against having government negotiate labor agreements. Who will own/operate the various facilities proposed to be built/acquired?
8.	2-5/2.3.2	How about establishing Hartford-Providence as a high priority corridor?
9.	2-7/Rail	Demand management removes commuting trips, leaving the disincentive to be borne by those who have not caused the problem and whose travel we are trying to promote. What about double-stacking on the New York-Boston rail line? Where is the subsidy for Hartford, Waterbury, and New Haven commuter rail service going to come from?
10.	2-8/Mkt price demos	Fuel prices here are low, relative to elsewhere, but we pay a lot for university tuition and health care, and they don't.

488 West Road
Belgrade, ME 04917
Phone/Fax: 207-495-3498

31 January 1995

Mr. Marc Cutler
Cambridge Systematics
150 CambridgePark Dr., Suite 4000
Cambridge, MA 02140

Dear Mr. Cutler:

I enjoyed your presentation at the New England Transportation Initiative meeting in Concord, NH yesterday evening.

I am a member of Maine Regional Transportation Advisory Committee No.4 (Kennebec River Valley) and a proponent of increased focus on rail freight and passenger services, where feasible. I would like to offer the following additional comments:

1. The environmental costs for constructing existing rail lines and preserved corridors have largely been paid. These systems have great underutilized potential for moving goods and people efficiently, recognizing ongoing needs for debottlenecking choke points, upgrading trackage and modernizing equipment.

2. Efficient intermodal connections are essential. For freight this means a network of truck/rail transfer facilities at strategic points throughout the region, coupled with swift and reliable services at competitive rates to principal North American destinations. Double stack capability is an essential factor in intermodal freight economics. The NE region must get on with the process of debottlenecking principal rail lines for double stack trains. This includes, for example, a St.Lawrence & Atlantic Railway bridge clearance at Gorham, NH, which I understand is the only restriction on their double stack trains between Auburn, ME and Chicago. I further understand the estimated cost to correct this situation is under $1 million. Rail lines running the north-south axis of Maine should also be cleared for double stacks to connect through Massachusetts with systems to the west and south. Public/private partnership investments in these projects can significantly reduce long-haul truck traffic on the highways and make New England business more competitive.

(39)

3. Intermodal connections are also an essential part of any realistic consideration of passenger rail revitalization here in northern New England. Safe and convenient waiting facilities, connecting bus/van/taxi services, telephones and parking facilities for autos and bicycles are integral elements, without which people will not be attracted from their vehicles. This has been recognized in the planning for the AMTRAK extension to Portland, which should go ahead quickly as the logical extension of the Northeast Corridor.

(40)

4. The proposed rail link between North and South stations in Boston is critical to the long range passenger rail future of northern New England, as pointed out in other comments at your meeting and in our RTAC's list of objectives (MDOT 20 Year Statewide Transportation Plan, Part 2, Regional Transportation Advisory Report for DOT Region 4, p.31). (41)

5. The NETI Plan of Cooperation recognizes tourism as a major potential contributor to the New England economy. Here, I believe, passenger rail has considerable unrealized potential. During the past few years several tourist/excursion rail operations have begun in Maine, eg Belfast and Moosehead Lake RR., Maine Coast RR, The Silver Bullet Ski Train from Portland to Bethel and the Portland Narrow Gauge. Trackage rights and workable operating agreements between Portland and Brunswick would open much wider possibilities, including access to the popular Freeport market. From an interstate standpoint, New Hampshire's acquisition of the Mountain Division and Conway Scenic Railroad's announced plan to open it through the Crawford Notch suggests possibilities for serious excursion services to the White Mountains from Boston and from Portland via reopening the Mountain Division segment from Westbrook to Conway. (42)

Thank you for the opportunity to offer these comments.

Sincerely,

John T. Sutton

John T. Sutton

cc: Chip Getchell, MDOT
Gedeon Picher, MDOT

29 Walnut Crest Road
Gorham, Maine 04038-2640
1 February 1995

Mr. Marc Cutler
Cambridge Systematics
150 CambridgePark Dr. Suite 4000
Cambridge, MA 02140

Dear Marc Cutler:

While I have received several bulletins similar to the "Update" numbered 4 (Jan.1995) which announced the meeting in Concord on 30 January, my presence in Concord was "a first" for NETI participation.

You requested that any comments in writing be submitted this week, and this is my attempt to comply.

For my convenience and your reference, I numbered the stapled stack of paper distributed in Concord as follows: i through iv on the first four sheets, then 1 through 37 for the remainder. By that system, page 11 comes up as PORTS, and the forth item on that page concludes with the statement - - "; No New England port has double-stack rail." Defense of that statement rests on the meaning of "has", but I think it sells Maine a bit shorter than it should.

To speak with knowledge I should make a visit to the facilities refenced as those of Mid-Atlantic States, and I have not. If the New England deficiency is in dock side facilities, all that I have seen is a construction contractor's type crane located on the dock in Portland for the handling of containers brought to it by yard-tractor on highway-type transport chasis. I am assuming that ports which handle a high volume of containers have faster equipment. If the deficiency is in clearance to allow the passage of double stacked containers over the rail lines in Maine, I think your report should give Maine more credit than it now implies.

(43)

Checking with acquaintences more knowledgible than I, I have learned that there two standards of container size, those for intermodal exchange between rail and ship (an international standard), and those for U.S./Canadian domestic exchange which are higher. Double stacked rail-cars of the international size have been passing through Maine on the C-P trackage (Jackman-Vanceboro), and there is official "clearance" on that line from Brownville Junction westerly for the larger "domestic" standard. This means that Bangor and Aroostock can deliver double-stacked cars of either standard anywhere on their system, including the port of Searsport, and, by transfer, to most points in the Guilford system as far south as South Portland. The inactive (but still in place) Mountain Division of the Guilford system provided another connection with adequate clearence from Montreal via Saint Johnsbury to the South Portland side of the port of Portland.

On another subject (and page location), there are some inaccuracies in the railroad system drawing on page 13. The map shows a connection between Brunswick and Lewiston which has been broken for some time.(My guess is that break came with the extension of the Maine Turnpike from Portland to Augusta). There are also two dead-end "squiggles", next west from Northern Maine Junction, which I don't think you should be showing, because I don't believe there is track there now.

Yours very truly,

Bernard P. Rines

Bernard P. Rines.

Copies to Chip Getchell and David Kruschwitz.

29 Walnut Crest Road
Gorham, Maine 04038-2640
3 February 1995

Mr. Marc Cutler
Cambridge Systematics
150 CambridgePark Dr. Suite 4000
Cambridge, MA 02140

Subject: Correction to letter of 1 February.

Dear Marc Cutler:

I regret that the fifth paragraph of my letter of 1 February, in the nineth line of that paragraph, that part which says,

"and, by transfer, to most points in the Guilford system as far south as South Portland."

is in error.- - - Overstated at a minimum.

Relatively speaking, the problems of gaining the necessary clearance for double-stacked containers on rail cars between South Portland and Northern Maine Junction is small in relation to the problems from South Portland southwesterly.

(43A) The full clearance for domestic sized doubled-stacked containers is NOT believed to be currently available at bridges in Winthrop, Oakland, and Waterville. Accurate checking for specific heights would give a clearer picture of the costs of correction, IF there was some reason to believe there would be continuing shipments of double-stacked containers over that section of rail.

Yours very truly,

Bernard P. Rines.

Copies to Chip Getchell and David Kruschwitz.

Comments on the

Dec. 20, 1994 DRAFT

NETI Transportation Plan of Cooperation

By: Everett Stuart, 406 Stony Lane, North Kingstown, RI 02852

1.) On page 2-6, the first sentence in the ***Rail*** section references the Northeast Corridor Transportation Plan. I believe the correct title is Northeast Corridor *Improvement Project.*

2.) I am particularly pleased to see the recommended support for tourist railroad operations in the ***Tourism Initiative***. Those tourists trains, including dinner trains, which are more an attraction than a true transportation service have secondary **transportation** benefits. On those lines served exclusively by tourists trains, they keep the rail corridor active allowing for possible future development of passenger or freight service. On those lines shared by other operators, the tourists trains help defray the cost of maintaining the line. These benefits are above and beyond the economic contributions of the tourist trains.

3.) To strengthen the concept that passenger rail service in tourist areas relates to <u>both</u> economic development and highway congestion mitigation, I suggest the addition of the following bullet on page 2-7 in the ***Rail*** section:

(44)

- *Expansion of (seasonal) passenger rail service to major tourist destinations.*

My thinking is that tourists headed for destinations such as Cape Cod, Newport, RI, or northern ski areas could be lured off congested highways be convenient rail service. Several years ago a reasonably successful service was operated from the Boston area to the Cape, and Amtrak still offers seasonal weekend service from New York to Hyannis. I believe the potential exists for two levels of service on one train. An economy coach service for those seeking basic transportation, and a deluxe service with on-board amenities and entertainment for those who want their vacation to begin when they step on the train. The deluxe service could be provided by a private entrepreneur in conjunction with the rail operator.

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Providence, RI

MEMORA

Post-it® Fax Note 7671	Date 2/2/95	# of pages ▶ 2
To Marc Cutler	From Susan Morrison	
Co./Dept. Cambridge Systematics	Co. R.I. Div. of Planning	
Phone # 617-354-0167	Phone # 401-277-1220	
Fax # 617-354-1542	Fax # 401-277-2083	

To: **Mr. Peter Janaros**
Program Development, Rhode Island Department of Transportation

Subject: **NETI Draft Plan of Cooperation**

Date: **February 2, 1995**

We have reviewed this draft and, overall, believe that the New England Transportation Initiative selected some appropriate issues for future regional cooperation. The Intermodal Freight Alliance seems especially worthwhile. At the least it would establish a forum and would start with a good list of ideas (it remains to be seen how far cooperation might extend).

We offer the following specific comments.

1. On page 2-3, fourth bulleted item, could "air freight niche airports" be explained with a parenthetical definition or example?

2. Under the passenger transportation recommendation (pages 2-8 and ES-3), we suggest trying to clarify the part about targeting transportation investment according to effort on travel demand management and growth management.

(45) One problem was the interpretation by a member of Rhode Island's PAC (and the NERTAC) that this would promote rather than discourage urban sprawl. It could be repeated, in or near the first sentence, that this whole recommendation refers only to the congested regional corridors. The word "communities" could be used instead of "activity centers..., municipalities, and subregions...." It could be added that this recommendation is in contrast to the present situation in some states, where investments can be made without regard to growth management policies.

Another question is how this recommendation would be carried out at a regional level as part of the NETI implementation program, given that states now make these decisions individually in their Transportation Improvement Programs.

(46) 3. Under "ISTEA Requirements and Reauthorization" (page 2-9), we were interested in the recommendation for an intermodal regional travel demand forecasting model. Have models at this scale been done? It would seem to be much different from usual modeling, where short trips and work-purpose trips are so numerous.

(47) 4. The tourism initiative (pages 2-9 through 10 and ES-3) seems like a natural issue for regional cooperation. Our only questions are how much has already been done in this direction and should it

be tied into an existing organization that is already involved. Also, how would the last element (development of local access strategies) be pursued at the regional level -- through case studies, at selected major sites, or with generic strategies?

(48) **5. In the summary section on new technologies (page ES-3), the recommendation about infrastructure for alternative-fueled vehicles should be reworded so that it doesn't sound as if the states will be building fuel stations. The exact wording on page 2-12 could be used again.**

I thought that the consultants did a technically competent job with this *Plan of Cooperation*; the analysis and conclusions were on target.

Please call me at 277-1220 if there are any questions about these comments.

Susan

Susan P. Morrison
Chief, Office of Systems Planning

cc: Mr. Marc Cutler, Cambridge Systematics

Comments of
Providence and Worcester Railroad Company
Regarding the Draft of the
NETI Transportation Plan of Cooperation

A. The recommended actions presented in Section 2.3 need clarification and/or explanation in a number of areas:

2nd bullet point

(49) Is there a particular facility intended to be served by the New England Central Railroad (as is the case with Boston and Davisville?)

3rd bullet point

(50) What is meant by "key facilities"?
Who will make such a determination?

5th bullet point

(51) What kind of agreements?
Does this plan contemplate that the alliance would be the owner of facilities such as the Ports of Davisville and Boston?

6th bullet point

(52) If the alliance serves only an advisory function and is not a new governmental entity, how can it "secure and distribute federal funds"?

7th bullet point

(53) What does this mean and what has prompted some sort of perception that costs and revenues of freight transportation are not distributed equitably across New England? We are not sure that NETI can lawfully engage in the types of discussions that this section seems to suggest. Do you mean to state that in developing regional strategies, care should be given to (a) not interfering with existing competitive positions (i.e. ensure that public investment does not treat carriers inequitably) and (b) recognizing existing private sector investments?

12th bullet point

(54) Two explanations of what this means have been offered. One is actually related to trying to resolve conflicts

which exist where more than one railroad has rights to use the same line of railroad. For example, Metro North, Amtrak, Providence and Worcester Railroad and Conrail all operate on the Northeast Corridor west of New Haven, CT. The other explanation is this is driven by articles in trade press and the Wall Street Journal about how freight traffic which travels over two or more railroads sometimes suffers from delays, unreliable service, etc. because the connecting railroads have different management styles, interests in a particular type of business, etc. This issue should be better defined.

B. The Plan should also include a mechanism which would monitor proposed statutes and regulations which might effect railroads and help ensure that such effects on railroad operations are fully considered by proponents of such legislation or regulation. This is especially important since NETI recommends increased use of rail freight.

(55)

Last year, for example, the Massachusetts legislature was considering a River Protection Act. If this Act had been passed without amendment, the railroads' ability to operate, maintain and expand their services would have been severely curtailed. Enclosed is a copy of the letter the Massachusetts Railroad Association sent to the Chairman of the House Ways & Means Committee which fully describes our position on that bill.

C. <u>General Comment</u>

While many of the ideas offered in the Plan of Cooperation have strong merit, we are generally concerned about the lawfulness of some of the suggested joint activities, which seem to go beyond the concept of regional facilities planning and reach into issues of competition, market identifications, etc. P&W strongly urges that NETI seek the guidance of appropriate legal counsel before progressing such activities.

66 Whitney Road
Harvard, MA 01451
(508) 456-3631

February 3, 1995

Dennis Coffey, Mass. EOTC, NETI Policy Committee
Transportation Building, Room 3170
10 Park Plaza
Boston, MA 02116

Sonya Hamel, Mass. EOEA, NETI Policy Committee
100 Cambridge Street, 20th Floor
Boston. MA 02202

Dear Sirs.

The Massachusetts Advisory Committee (MAC) to the New England Transportation Initiative (NETI) submits the attached comments on the Draft Transportation Plan of Cooperation.

Very truly yours,

Malcolm Davis
Gregory Elevich
Phil Shutt

for MAC

cc: Marc Cutler
Cambridge Systematics
150 CambridgePark Drive
Suite 4000
Cambridge, MA 02140

Charles Repeta, NETI Project Manager
Transportation Building, Room 3170
10 Park Plaza
Boston. MA 02116

Comments on the Draft Transportation Plan of Cooperation

The Massachusetts Advisory Committee (MAC) urges the continuation of the NETI process, and supports the Draft Plan subject to the comments noted by the consultant at the Mass. Advisory Committee meeting on January 26 and below.

Rail.

Comment at the MAC meeting pointed out that the phrase "in a fiscally prudent manner" at the end of the first paragraph under Rail (page 2-6) should apply broadly rather than to the rail link only. A second comment was that the report should not be silent on the proposed North South Station rail link. A third comment was that emphasis on rail freight should not mean curtailing passenger rail; this had particular reference to busy rail corridors such as the Amtrak Shoreline route between New York and Boston. A comment letter primarily on rail from the Brotherhood of Locomotive Engineers is also attached.

56
57
58

Other.

Several suggestions are also offered separately for clarity and phraseology.

Metropolitan Area Planning Council

60 Temple Place, Boston, Massachusetts 02111 617/451-2770 Fax 617/482-7185

Serving 101 cities and towns in metropolitan Boston

February 2, 1995

Mr. Phil Shutt, Chairman
Massachusetts Committee - NETI Study
66 Whitney Road
Harvard, MA 01451

Dear Mr. Shutt:

The Metropolitan Area Planning Council has reviewed the draft Transportation Plan of Cooperation (December 20, 1994). Our review has been based on the goals and objectives of MetroPlan 2000, MAPC's regional development plan. We would like to offer the following comments.

(59) **1) Tilt-rotor technology** - MAPC has been involved in studying the feasibility of tilt-rotor technology in fulfilling some of the region's air transportation needs. Throughout the course of the study, we have noted that there has never been any mention of this technology. At the very least, the final report should include a discussion of why this technology has not been analyzed.

(60) **2) Alternative Fuels** - In the section on Low Emitting Vehicles (LEV) and Alternatively Fueled Vehicles (AFV), the two options seem to be used interchangeably. It is important not to confuse alternatively fueled vehicles with low emitting vehicles. The emphasis should be on alternatively fueled vehicles that are also low-emitting.

(61) **3) Competing uses for rail lines** - The section on freight transportation recommends the acquisition and use of abandoned rail lines for freight transportation. The section on tourism states that bicycle travel should be encouraged. It is important to note the growing interest and use of abandoned rail lines for bicycle paths. The report should acknowledge this potential conflict and should state that the option of rails-with-trails should be explored. The Rails-to-Trails Conservancy (a national organization promoting the use of rail lines for multi-use paths) has examples of rail lines and bike paths co-existing where sufficient right-of-way exists.

The Commonwealth of Massachusetts
HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON 02133-1054

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STEPHEN WOELFEL
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Committees on:
Education, Arts and Humanities
Transportation
Member:
Governor's Advisory Commission on Women's Issues
Massachusetts Caucus of Women Legislators
Co-Chair:
Task Force on Domestic Violence
Member:
Special Committee on Women in the Criminal Justice System

STATE HOUSE, ROOM 443
(617) 722-2460

February 3, 1995

Mr. Marc Cutler
Project Manager
NETI Plan of Cooperation
Cambridge Systematics, Suite 4000
150 Cambridge Park Drive
Cambridge, MA 02140

Dear Mr. Cutler:

By way of introduction, I have an Urban Planning background, have served on the Transportation Committee as Ranking Minority Member, and am Co-Chair of the 182 member North Station-South Station Rail Link Caucus of the Legislature. I also served as a member of the panel at the Boston Transportation Conference discussing the future of the Boston Region.

After reviewing the NETI Transportation Alternative Scenarios Analysis and the Transportation Plan of Cooperation, several comments seem appropriate.

First, I request that you remove the $4 Billion price tag from the estimated cost of construction of the North Station-South Station Rail Link. You have stated in the notes on page 4-4 of the Transportation Alternative Scenarios, that the $4 Billion includes $2.2 Billion in improvements to the general MBTA commuter rail system. I would like to see the $2.2 Billion relabeled as Improvements to the MBTA Commuter Rail System and moved to Scenario 3 on Table 8.7. This reconfiguration allocates $1.8 Billion, the actual cost of construction, to the North Station-South Station Rail Link Project and allocates $2.2 Billion, the cost of other enhancements to a separate line item, placing those enhancements in Scenario 3, or further into the future, where they belong.

Most importantly, the Appendix of Scenarios by Mode- Passenger Rail- Plan of Cooperation, neglects the commitment that Massachusetts has made to the North Station-South Station Rail Link. In the latest Transportation Bond bill, the state allocated $60 million to the engineering and construction of the slurry walls for the base of the Rail Link. This money, added to the $4 million already committed by the U.S. Congress for design and permitting, indicates that the Rail Link is a project already in process.

The Current Scenario should, therefore, include Rail Link construction. The estimated cost of $1.8 Billion should be included in the bottom line of Scenario 1, making the grand total of that Scenario $7.0 Billion. If you are hesitant to acknowledge the active nature of the Rail Link, then at the very least, the report should include the $1.8 Billion price tag there.

Several suggestions also seem appropriate in the Rail section of the Plan of Cooperation, Section 2.3.2 I was bothered by the comment that Passenger Rail was the only section to be (63) accomplished "in a fiscally prudent manner," (the last sentence of the first paragraph on page 2-6 of that Section 2.3.2). This phrase should be moved to the Introduction and Background Section, to the first sentence of the second paragraph, so that it reads, "The Plan of Cooperation endeavors to achieve these three goals IN A FISCALLY PRUDENT MANNER."

Finally, I would comment generally that I was shocked and surprised that the rail section of your otherwise very thoughtful report on transportation in the New England Region (64) glaringly ommitted any mention of the Rail Link. Page 6 of the June 1994 Draft of Transporation Alternative Scenarios did include a commitment to the Rail Link. "Enhanced connectivity between Southern and Northern New England rail service by means of a North Station-South Station connector in Boston." I request that that sentence be reinstated on page 2-6 of the Plan of Cooperation- Recommended Actions- Rail-first paragraph.

When the project is tallied against your nine objectives, it adds significantly to the accomplishment of each of them. The Link promotes economic vitality by making dramatically better use of existing transportation corridors to connect Northern New England to Southern New England with a seamless passenger rail network. It enhances the regional network surrounding Boston and thereby removes much passenger traffic from congested highways.

REPRESENTATIVE HASTY EVANS
HOUSE OF REPRESENTATIVES STATE HOUSE, ROOM 443 BOSTON, MA 02133

It protects the environment while minimizing regulatory barriers to investment by using an existing federal corridor that already has environmental permits, to transfer commuters from high polluting forms of transportation such as auto and air, to rail.

High Speed Rail is a technological advance we cannot afford to ignore. By using existing rail networks for expansion of our transporation system, we make better use of existing land use patterns. The North Station-South Station Rail Link is based on the proposition that regions should be connected internally and externally.

As you know, the National Commission on Intermodalism is giving priority allocation of funds to intermodal transportation corridors that are of regional and national significance. The I-93 Corridor is such an intermodal corridor because of the inclusion of the Rail Link under Boston's Central Artery. The success of the passenger portion of the Regional NETI effort will be more surely accomplished if it conforms to the spirit of the National Commission on Intermodal Transportation.

My comments are lengthy, but the importance of the inclusion of the Rail Link within the transportation network of the New England region requires a full response to your Alternative Scenarios Analysis and Draft Plan of Cooperation.

Sincerely,

Hasty Evans

Hasty Evans
State Representative

cc: Governor William Weld
Lt. Governor Paul Cellucci
Secretary of Transportation, James Kerasiotes
Secretary of Environmental Affairs, Trudy Coxe
Transportation Committee Chair, Thomas Cahir
Mass. Leg. CARL Caucus Chairman, John Businger

REPRESENTATIVE HASTY EVANS
HOUSE OF REPRESENTATIVES STATE HOUSE, ROOM 443 BOSTON, MA 02133

Citizens Transportation Action Campaign

33 Mount Vernon Street • Boston, Massachusetts 02108 • Telephone: 617-523-1994

New England Transportation Initiative
c/o Marc Cutler
Cambridge Systematics
150 CambridgePark Dr., Suite 4000
Cambridge, MA 02140

February 3, 1995

Re: **NETI Draft Transportation Plan of Cooperation**

Citizens Transportation Action Campaign (CTAC) is a broad-based coalition of environmental, community and labor organizations promoting the construction of the North Station/South Station Rail Link in the Central Artery highway corridor running through downtown Boston.

Although appearing in earlier NETI documents, there is no mention of the Central Artery Rail Link, connecting Boston's North and South Stations, in the most recent Draft. There is some vague language in the Draft supporting " the concept of interconnecting passenger rail service from the south and west with service to northern New England ... ". Clearly this is the time and the document in which the New England States can commit to the Rail Link and to the development of a modern passenger rail system for the benefit of the entire region.

The Draft recognizes the ability of commuter rail to remove regional auto commuter trips from the " congested regional priority travel corridors ". By building the Central Artery Rail Link at the junction of the heavily congested I-95/I-93/I-90 corridors in Boston, the present commuter rail system will be transformed into a modern regional rail system that connects Maine and New Hampshire through Boston to Rhode Island and Connecticut. Not only will this regional rail system carry commuters to Boston, Providence and other cities on the network, but will also carry commuters who travel between suburbs.

Currently, the options to the automobile for the suburb to suburb commute are extremely limited, leaving most with no option except to drive. It is this inability to find viable options that is driving the increase in vehicle miles traveled. Increasing highway capacity to meet this demand offers little in the way of a long term solution, and historically has made the situation significantly worse. Linking suburban activity centers, cities and residential areas together by a modern regional rail system can be an alternative.

AMTRAK's Northeast Corridor is currently being extensively upgraded, and the extension of this corridor to northern New England through the Rail Link would open up an entire new market for rail passenger service in the region. For the first time, many New Englanders would have a modern rail passenger network available to them as an alternative to air or automobile travel in the Northeast Corridor. This will help alleviate both highway and airport congestion in the region.

If New England is to fully realize the full potential from the Tourism Initiative contained in the Draft than it must take full advantage of its passenger rail system and the connections made possible by the Rail Link. Domestic as well as foreign visitors, many of who are accustomed to extensive and well run passenger rail systems in their countries, will appreciate and use a New England rail system which is integrated with tour buses, cruise ships, local bus carriers and rental car agencies.

Only the Central Artery Rail Link maximizes the passenger rail potential of the entire region, and is the only transportation project that can offer real alternatives to the increasing congestion which is destroying the quality of life and economic vitality of much of New England. The Rail Link must be included in futher NETI initiatives along with a discussion of modern regional and intercity passenger rail initiatives and developments, both here and abroad. All alternatives, not just rail, must be evaluated " in a fiscally prudent manner ". What is the true cost of business as usual?

Sincerely,

Lawrence T. Fay

Lawrence T. Fay
Executive Director

cc: Representative John A. Businger - D Brookline
Chair, Massachusetts Central Artery Rail Link Legislative Caucus

Massachusetts Sierra Club

February 2, 1995

NETI Policy Committee
C/O Marc Cuttler
Cambridge Systematics, Inc.
222 Third street
Cambridge, Mass 02142

Dear Committee Members,

Save The Bay and its 15,000 members is very disappointed with the final product of the NETI process. We feel that under the disguise of inclusiveness and cooperation that our (66) concerns have been ignored. Environmental protection in this plan is, at best, superficial jargon. The real substance of the Plan is business as usual; more cars, further disinvestment in our cities and the people that live there, and sprawl as the road map for the future. We cannot and will not subscribe to this plan.

NEW ENGLAND REGIONAL INTERMODAL FREIGHT ALLIANCE

* The importance and emphasis that a Freight Alliance has assumed in this plan is a problem. This sanctioned lobbying conglomerate represents to us more roads, twin trailers, and a (67) "just in time delivery policy" we cannot endorse. We see very little hope for a balanced agenda or even a balanced membership in this initiative.

NEW TECHNOLOGIES

* New technologies are referenced in terms of how many more cars can be squeezed on to existing highways (ITS), and how the peak deluge of autos can be spread out over the entire day not (68) just in two rush hours. There are no initiatives in this plan to preserve capacity such as parking caps, dedicated sources of funding for transit, congestion pricing, or ride share programs. These are inexpensive, low technology solutions that have proven track records, but are mysteriously absent from this document.

TRANSPORTATION TOURISM INITIATIVE

* In the Tourism initiative the most emphasized item presented was to make rental cars available at bus and train (69) stations. This is not good news for our quaint, narrow "streeted" coastal communities already inundated with too many cars.

An especially contradictory statement, and adds weight to our belief that this study is nothing more than the status quo, (70) is found on page 2-8. It is under the heading of Travel Demand Management and Growth Management Planning. It states, "New England states are encouraged to build new transportation infrastructure to activity centers (such as office and industrial parks, shopping cente[illegible]nal

SAVE THE BAY

SAVE THE BAY, 434 Smith Street, Providence, Rhode Island 02908-3770 (401) 272-3540 FAX (401) 273-7153

destination).....". These "activity centers" were once know as cities. Billions of dollars have been invested in infrastructure and continue to be invested in cities to keep them vital. If we keep spreading money/infrastructure farther and farther around to new centers, we will exclude those who cannot afford cars from any hope of future prosperity and spread pollution farther and farther from where it can be treated effectively. Automobile travel is the most expensive and the most subsidized form of travel and may be the root cause of our non competitive stature in many world markets.

To sum up, at the end of the public meeting in Rhode Island we were left with, "So what if there are more cars on the roads as long as they are cleaner burning." This statement does sum up the narrow perspective this plan encompasses and why we find it impossible to endorses it. We do however intend to make our beliefs known to our new Governor and others as we deem appropriate. (71)

I apologize for the angry tone of this letter, but after 15 months of meetings, the review of thousands of pages of documents, hours of work collecting the opinions of those I represent and preparation of comments, I am outraged at how little the health of our shared environment means to this committee. The committee is well aware that a healthy and clean environment attracts and keeps people and businesses in our region.

Sincerely,

Alison Walsh
Director of Issues

cc: Senator John Chafee
Governor Lincoln Almond
Kevin Hively
Sally Spadaro
Director Bundy, DOT

SAVE THE BAY

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To: Mr Richard Hollis, DOT
From: Marty Toyen. Seaworthy Systems,

TO: ANNE MCKINNON FAX 617 482 7417

FROM: MARTIN TOYEN, SEAWORTHY SYSTEMS, INC. ESSEX, CONNECTICUT 203 767 9061 FAX 203 767 1263

Response to Transportation Alternative Scenarios

1.) ***Does Scenario I truly reflect current policies?***

Yes, I feel it is a fair, reasonable reflection of current policies. There might be a few exceptions to the trends stated, but generally, in my opinion, the scenario is correct.

(72)

2.) ***Does Scenario II assume too much or too little voluntary compliance?***

The profit motivation must be taken into consideration. Businessmen look for the most efficient way to conduct business. If the voluntary compliance goes against current business practice, voluntary compliance will fail. Most business professionals want to do the "right" thing, but all you need is one out of ten to avoid the compliance and before you know it, everyone will follow. Competition is the operative word not voluntary.

3.) Does Scenario III require to much government intervention?

Yes, The direction might be correct but without an external reason to change, it will not happen. It appears Americans need a crises to bring about change. One only needs to look to the 1973 and 1980 oil embargo. We accepted change only after it happened, (lower temperature in the house when using heating oil; houses built with more efficient insulation; 55 mph speed limit, and some increase in mass transit). Until there is a major "national" reason to bring about Scenario III, it just won't happen. If only the New England states

attempted this Scenario, it would put the region into a major recession. Raising fees to implement those changes as suggested would only drive firms out of the area to locations that would be more conducive to business.

When will those at the national, state, regional and local level realize that businesses are the pipeline of the economy. They create jobs and help the money flow. As each of these taxing authority draw funds out of the pipeline, they hurt business in the short-term and hurt the region in the long-term.

The managers/owners/ and decision makers must remain competitive in the global market. Therefore they will move their firms to those locations which provide opportunities to gain market share. It is not only the issue of taxes, but various regulations as well; air quality; employment, OSHA etc. Those states that see the benefits of having business locate to their region, recognize it is more important to have employment then unemployment. The southern states view each business as another pipeline in which money will flow into the economy, via jobs and services rather then an other source to tax.

In my humble opinion, since businesses don't vote (can not vote), they should not be taxed. It is for a business, taxation without representation. Why should a firm be taxed more then an individual? Businesses don't use half the resources of a community or region, yet they are taxed greater then those that do.

4.) Are any of the Scenarios based on assumptions you question?

Yes, Scenario II, the third paragraph is unrealistic, " The New England States would voluntarily agree on a regional intermodal freight container facility strategy... This study would lead to implementation of

a regional investment strategy.." I don't believe that any state will allow their funds to flow to another state. The state of Connecticut is attempting to develop its ports, will Mass. contribute funds for that development. I think not.

The concept that a voluntary attitude will prevail is unrealistic. I can not recall one instant where over time everyone volunted to work for the good of a region. One can't even get the doctors to reduce their fees for the good of the patient and the US economy. Why should a business stop emitting CO into the air unless there are required too.

In Scenario II, a comment was made about improving commuter service for the inter cities. I don't know about Boston of Providence, but Hartford is crumbling. One would question why improve the commuter service there, few travel to inter-cities offices any more. Just look at the office buildings outside of Hartford or on Route 128 outside of Boston. Why travel to the inter-city? The shopping isn't there; the manufacturing isn't there; the service jobs are not there. One might question and attempt to answer this question; "**Should we save the cities and why?**"

(73)

My general comment for Scenario III is: We need less government not more. Government has failed in helping to retain businesses or to stop the out flow of money, people and business from the region. Why do you think they can now reverse the trend long after the horse went through the gate.

Scenario III will only come about it there is a major crises in the <u>nation</u>: an oil embargo, a depression or war. Trying to implement a Scenario III will only force more businesses away from the region and bring about a much smaller, restricted economic pipeline.

In my opinion, Scenario III is completely unacceptable.

5.) What elements should be deleted? What should be added? What elements should be included in a different scenario?

Delete as unreasonable Scenario III and II. Add a new Scenario IV, which goes in the opposite direction of the nation or Europe. The Scenario might look like this:

A.) Reduce government intervention, i.e. get government out of many of the aspects of providing services to the public. Currently, government workers are earning more then the private sector. The public sector has greater and better benefits then the private sector. Just look around, it is the small firms carrying the load now-a-days not the large multinational firms. I don't know of any small firms capable of providing a defined benefit pension plan, yet those same small firms must pay for the public sector's defined benefit plan.

B.) Reduce regulations on business. The day and age of the sweat shop is over. Employees can and do move from job to job. Businesses in New England don't need to be hampered by the restrictive policies imposed by the government for the benefit of the worker. (This argument goes with the question of, Will voluntary compliance work? Is it not why we have the strict policies today?) Remember, the worker votes, business can not.

C.) Change the taxation rules to encourage investment in New England. Don't tax corporations. Just look at the number of businesses that located to Puerto Rico because of the taxation laws. Only tax the individuals.

D.) You are correct with telecommunication and teleconferencing. Why not attempt to have the lowest cost service in New England. Don't tax telecommunications bills. Then businesses that use telecommunications to conduct their worldwide operations might be willing to locate here.

E.) Business will flow to the path of least resistance, so why not study what the resistance is. I don't think it is intermodal transportation, ports or roadways. Why not look to work ethic, education of the workforce, crime and the cost of doing business.

6.) Will any of these scenarios enhance New England's competitiveness or will any detract from its ability to compete?

Yes, See answers to questions above. All of the scenarios detract from its ability to compete. The least impact comes from scenario I, the worst from scenario III.

7.) Do the scenarios address issues of regional significance that are key to your business?

No. As mentioned in your draft, the region is becoming a service based economy. Our business which is service based conducts very little busines in New England. We should be located in New Jersey or further south. We are here in Connecticut because many of the principals who started the firm enjoy the state and the quality of life not found in many other parts of the nation.

I applaud you for the effort but I truly feel it missed the mark. The economy of the region is not based upon nor driven by the transportation issues. Remember, we had the best rail service in this nation at one time; the best ports were Boston and New York and to a degree still are; the road network has reasonable. The problem is as business moved from the region, there was less need to maintain those facilities and slowly more and more firms went south.

Like a pendulum on a clock that swings with time this region can recover, but first you need the willingness of the local, state, and federal officials who want to bring about change, not just go after the vote.

Save the money you are spending on this study and use it to rally the businesses to go to their individual capital hills, to educate and inform the elected officials what really needs to be done to bring the New England states back to a strong economy and a great place to live.

Comments

- feel the NETI effort's results to date are well done & potentially worthwhile. And the Plan of Cooperation presents it all very well. From my Wilton vantage point I'll continue to help develop the Nashua commuter extensions the Wilton-Bennington tourist train possibilities.

With the mobility objective in mind, I strongly recommend more visibility for and emphasis on the N-S station connection.

(74)

Tom Greenman

Name Thomas B. Greenman

Address 29 Stagecoach Rd.
Wilton, N. H. 03086

Phone

1/30/95

(75)

Comments

Suggestion:
Add to section 4.0 Topics Not addressed by the Plan for Cooperation:

- ~~Transportation~~ Security (or vulnerability) of Transportation systems to natural & manmade disasters and arrangements the States can make to cope with them.

By coping I mean both in lowering risk of disaster causing a large problem (mitigation) and in Emergency response (how States could plan to share resources and reroute passengers and freight across borders to recover ASAP).

This is an area mutual benefits and early actions could show near-term results and is important if it prevents or reduces economic losses during such incidents. Such disasters could include: Blizzards, earthquake, Flooding, Human disruption of oil supply, hazmat accident, explosion (terrorist or otherwise) and many more.

Name Alan Chachich
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1/30/95

From: Maria Mack, 1754 Mooresfield Rd., Wakefield, RI 02879

Comments on NETI Plan of Cooperation

Recommendation number two addresses the increasing levels of congestion in passenger transportation by expanding highway capacity. This is an unrealistic and short sighted solution. (16) In order to effectively reduce congestion, the passenger must have a multimodal system available, and strategies to reduce vehicle miles travelled should be a major focus. There does not appear to be adequate evidence of this focus in this document.

Recommendation number three which proposes to undertake a regional tourism effort within transportation, is an extremely vital addition. However, the relationship between tourism, economic vitality, environment and quality of life does not appear to be addressed or well understood. The recommendation mentions the preservation of environmental quality. This cannot happen if the emphasis is on greater highway capacity, and therefore greater auto dependency and further environmental degradation. It is necessary for a well planned program to promote transportation other than the auto (that is "alternative" transportation; why is this still labelled as such? In order for it to be considered mainstream, it must become more than some vague alternative to those individuals charged with the responsibility of moving people). Tourism can promote economic vitality through preservation of environmental quality.
It becomes obvious that in order to enhance intermodal connections, an intermodal network must first exist at a state level. The development of creative local access strategies is imperative.

One of the 9 objectives hopes to minimize travel demand growth by changing social and work (17) patterns. This can only be effective through good growth management techniques; not by creating even more infrastructure (SPRAWL). This means an effort to revitalize existing areas which will in effect, both improve economic vitality and protect the environment.

Section 2.2 Vision of NE Transportation Future discusses quality of life, which is partially defined by a healthy and attractive environment. If the natural resources, historic sites and vibrant town centers are not preserved, a very unhealthy and dismal environment will be the result. Therefore, again, a revitalizing effort is essential rather than creating more infrastructure.

Section 2.3.1 mentions standardizing truck regulatory policy. This should include stringent enforcement.

Section 2.3.2 passenger transportation: A reduction in VMT strategy must implement bus and rail networks within the region, combined with growth management planning.

Expansion of highway capacity does not improve the environment or quality of life. It is counterproductive to most growth management strategies. One must first have effective growth management policies, together with mass transit options. This will help to reduce congestion. If we continue to expand highway capacity, there will be no incentive for growth management.

Section 2.3.3 tourism initiative - this must be a priority, with the planning and promotion aspects emphasized.

Section 2.3.5 system preservation - NE states using their collective political strength to ensure national support for the maintenance and preservation of this system through various means. Primarily, adjustments in fuel taxes can be a help in establishing intermodal systems, but it must be understood that in order to allow for greater amounts of money to be used for maintenance, the political strength must be properly focused in that these goals may require the enactment of new legislation.

Romin Kvebel, Ph.D
16 Moraine Street
Belmont, MA 02178
(617) 484-8547

2/8/95

Re: Transportation Plan of Cooperation

Charles M. Repeta, Jr.
Project Manager
New England Transportation Initiative

Dear Mr. Repeta,

(78) I want to thank you for so ably guiding the NETI process over these last two years. Thanks to your diligence in managing communications, I was able to jump right back in, after returning from an extended stay abroad serving as Deputy Project Manager for the Physical Development Plan for the State of Qatar... a joint venture between Louis Berger Int., and Hellmuth, Obata and Kassabaum. Having represented a Boston-area community on the Massachusetts Bay Transportation Authority Advisory Board and on the Joint Regional Transportation Committee and as a "charter member" of the Massachusetts Advisory Committee (MAC), advising on the New England Transportation Initiative (NETI), I was eager to do so.

As an M.I.T. graduate (Course 11, Ph.D. '73) and as a former long-time employee at the John A. Volpe National Transportation Systems Center, I have a long standing interest in new technologies. It was therefore with great interest that I attended the The 3rd Annual Center for Transportation Studies (CTS) "Hot Topics in Transportation — New Technologies in Transportation". IAP Seminar Series hosted by Professor J. Sussman, of the Department of Civil and Environmental Engineering / Center for Transportation Studies.

All sessions were, I thought, very relevant to the issue at hand, namely the six governors' New England Transportation Initiative (N.E.T.I). The first session dealt with the future of the car — solar and electric options (James Worden, CEO, Solectria). On the second day attendees heard E. Donald Suseman (John A. Volpe National Transportation Systems Center) on advances in high-speed rail technology, and the series closed on Friday with a report on work currently underway at M.I.T. on linear propulsion. (The report was given by Tracy Clonk)

This brings me to my point in writing. The Transportation Plan of Cooperation, sponsored by the States of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont is a blueprint for the future. Answers to many of the questions NETI is addressing may be literally "just around the corner" ... they may well lie in applications of linear propulsion technology. Numerous practical applications of advanced linear motors to surface transportation are within grasping reach, as was evidenced at the CTS conference. Therefore, I feel strongly, that reference should be made to the pioneer work currently ongoing in this area, in the final Transportation Plan of Cooperation

I would hope that the Policy Committee could see its way clear to the insertion of such language as proposed by M.I.T's Professor Thornton. Thus starting at 2-7 line 10, the sentence would read. "These studies should include:

[• Linear propulsion for all speed ranges;

(Language in square brackets added)

Sincerely yours

Ronin Koebel

Encl.

Appendix I. List of Sources

List of Sources

Institutional Issues

Documents

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- Richard Hollis, ConnDOT

Maine
- Dana Conners, Commissioner, Maine DOT
- Paul Minor, Director, Planning, Maine DOT
- Gedeon G. Picher, Director, Policy Analysis, Maine DOT

Massachusetts
- Dennis Coffey, Deputy Secretary, EOTC
- Valerie Southern, Deputy Secretary, EOTC
- Michael Swanson, Deputy Secretary, EOTC
- William Steffens, Deputy Commissioner, MHD
- Daniel Beagan, Director, BTP&D, EOTC

New Hampshire
Charles O'Leary, Commissioner, NHDOT
Christopher Morgon, NHDOT

Rhode Island
Michael Bennett, Rhode Island DOT

Vermont
Patrick Garahan, Secretary, VAOT
Lloyd Robinson, Deputy Secretary, VAOT
Jeff Squires, Director of Planning, VAOT

Others
Charles Repeta, NETI Project Manager, EOTC
John Clements, Associate Administrator, FHWA
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